

Offsets, Salinity and Native Vegetation

Discussion Paper

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Executive Summary

OFFSETS, SALINITY AND NATIVE VEGETATION

This discussion paper examines whether, and how, the **negative impacts** of clearing native vegetation **might be offset by** separate actions that have **positive impacts**. Offset actions could include improving the management of existing native vegetation, restoring or regenerating an area of degraded vegetation, or revegetating a previously cleared area.

Comment is sought on the following proposed principles for a native vegetation offset policy:

1. An offset policy should be consistent with relevant Government policies.
2. An offset should lead to a net gain that improves the condition of the environment.
3. An offset agreement should not lead to permanent environmental costs, due to the delay before offset actions yield environmental benefits.
4. Clearing should only proceed when the offset site is making acceptable progress towards the predicted ecological state and management arrangements are legally secure.

An offset policy would be based on a system of calculating credits and debits. The proponent undertaking the clearing would incur debits, expressed as some units of environmental value. To compensate for this, they would need to obtain credits by undertaking an offset action.

It will be a major challenge to develop a method for calculating credits and debits

that is simple to apply yet recognises the complexity of natural ecosystems. Three possible options for calculating debits and credits are discussed: regional offset ratios; case-by-case evaluation using a set formula; and monetary contributions to a pool of funds.

An offset policy which requires offset actions to take place on the same property as the clearing would have the following advantages:

- It would provide greater flexibility for some land managers.
- It would lead to greater opportunities for regional development.
- Impacts of clearing on the environment and other land managers in the region would be more easily accounted for.
- An offset which leads to a 'net gain' will help to achieve native vegetation, salinity and other catchment targets.
- The current approach to trade-offs for clearing would be standardised.

The obstacles to the introduction of any offset policy are:

- lack of accurate and sufficient data (possible solutions are further research and an incremental introduction of the policy);
- changing Government policy (a possible solution is announcing that targets and other measures apply for a specified period);
- legal obstacles (the NVC Act would require amendments to enable an offset policy); and
- costs in administering an offset scheme (possible solutions are introducing a simple scheme only in regions with good data, and the Government bearing all transaction costs during an establishment period).

An offset policy could be further developed by allowing the impacts of native vegetation clearing on one property to be offset by action on another property. This would lead to a market for credits. The proponent seeking to clear would buy the required credits from the land manager who had undertaken the offset action. The seller and buyer would develop a legal agreement that linked the two sites and this would be approved by and registered with the Government. Alternatively, proponents could purchase the credits they need from a private broker who matched buyers and sellers, or from a central pool.

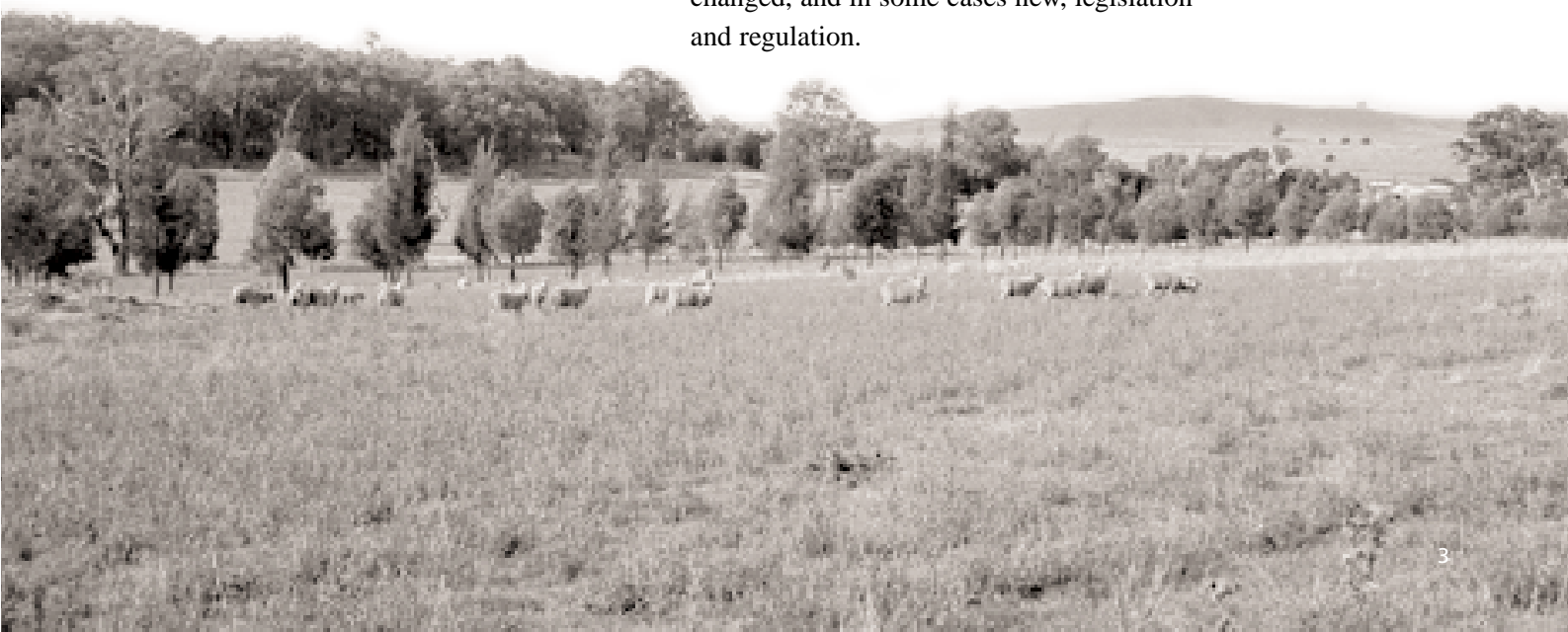
An offset market has the following advantages:

- potential for increased regional development opportunities from new agricultural enterprises;
- potential to diversify farm incomes through earning credits for positive vegetation management; and
- more effective and cost-effective remediation measures (by allowing offset actions to occur anywhere within a defined boundary, remediation could occur at the site of greatest environmental benefit, least risk and least cost).

The main obstacles to an offset market are:

- lack of accurate and sufficient data (possible solutions are further research, or attaching confidence ratings to credits);
- high transaction costs (possible solutions are introducing a simple scheme only in regions with good data, facilitating joint applications with cost-sharing and having initial transaction costs borne by the Government);
- need to establish institutional structures to administer and monitor trades (possible solutions are the Government acting as a broker, facilitating the establishment of private brokers, and using a Government credits manager to commission and on-sell credits); and
- a small market due to limited opportunities for clearing (possible solutions are establishing an early credits scheme and establishing an offset policy which encompasses developments other than clearing).

In the future there may be merit in extending offsets to cover the environmental impacts of developments that do not involve native vegetation clearing. In these cases, it may be possible to account for these impacts through a native vegetation offset. This would require changed, and in some cases new, legislation and regulation.



1. INTRODUCTION

1.1 Background

The development of this Discussion Paper arose from two Government announcements in 2000. In July the Premier, Mr Bob Carr, announced at the NSW Farmers' Association Annual Conference the exploration of the use of 'offsets', such as being able to clear isolated patches of native vegetation in exchange for replanting elsewhere, to provide increased flexibility in the implementation of the Native Vegetation Conservation Act 1997 (NVC Act).

In the following month, the *NSW Salinity Strategy: Taking on the challenge* was released by the Government. Action 4.3 commits the Government to 'develop a Discussion Paper, for consultation with stakeholders, on how to implement offsets for clearing with negative salinity impacts and how offsets might be linked to market-based solutions'.

At the moment, clearing applications are either refused, or approved with conditions to retain certain vegetation or take improving actions. By allowing clearing to proceed where its impact can be offset, an offset policy would provide increased flexibility to land managers while still achieving environmental objectives. It would also bring more consistency and rigour to the way conditions are determined.

In this Discussion Paper, to offset an activity means to compensate for the negative impacts of that activity, by taking a separate action with positive impacts. A proposed activity refers to a proposal to clear native vegetation (as defined in the NVC Act) that will result in a negative impact on environmental values.

A proponent is the person or organisation who proposes to undertake the clearing.

Offset actions for native vegetation clearing could include revegetating or regenerating a previously cleared area, or restoring or enhancing existing native vegetation.

This Discussion Paper canvasses the way in which an offset policy would work and assesses such a policy within the framework of the NVC Act. It also examines whether market mechanisms could potentially be used to extend the use of offsets beyond the boundaries of a property. It has been developed to stimulate discussion on the use of offsets and identify ways of making such a system practical, effective and responsive to new information.

The Paper has been prepared by the Department of Land and Water Conservation (DLWC), with assistance from other agencies. Drafts were reviewed by the Community Reference Panel on the NVC Act and by the Native Vegetation Advisory Council (a group representing rural, community and Government interests which advises, monitors and reports to the Minister for Land and Water Conservation on native vegetation issues).

1.2 Submissions

You are encouraged to make a submission on the matters raised in this Discussion Paper. Submissions should be sent to Peter Wright, Department of Land and Water Conservation, GPO Box 39, Sydney 2001 (Fax: 02 9228 6252, Email: pcwright@dlwc.nsw.gov.au) by 31 August 2001. You may like to consider some of the following questions in your submission:

- Is there merit in introducing an offset policy, either Statewide or in your region?
- What are the essential elements of an offset policy?
- Do you support the four principles proposed?
- Is there merit in encouraging a market for vegetation credits?

2. POLICY BACKGROUND

A number of current government policies and programs provide the context for an offset policy.

The most relevant national policies are:

- The Partnership Agreement for the Bushcare program under the Natural Heritage Trust and its national goal of No Net Loss of native vegetation (this is discussed further under Principle 1 in the following section).
- The National Framework for the Management and Monitoring of Australia's Native Vegetation, developed by the Australia and New Zealand Environment and Conservation (Ministerial) Council.
- The Intergovernmental Agreement on the National Action Plan for Salinity and Water Quality being developed for the Council of Australian Governments, which covers clearing in salinity-affected catchments.
- The *Draft Basin Salinity Management Strategy 2001-2015*, which addresses the salinity impact of native vegetation management in each State in the Murray-Darling Basin.

- The *Environment Protection and Biodiversity Conservation Act 1999* under which Commonwealth approval may be required for native vegetation clearing that will have, or is likely to have, a significant impact on a matter of national environmental significance.

The most relevant State policy is the *Native Vegetation Conservation Act 1997* (NVC Act), which specifies that consent is required to clear native vegetation in a wide range of circumstances. The NVC Act defines native vegetation as all indigenous trees and understorey plants, and groundcover where vegetation covers at least 10% of the area and this is at least 50% indigenous plants. It provides for regional vegetation management plans (RVMPs) which can specify whether clearing of specific areas or vegetation types is permissible, with or without consent.

When assessing clearing applications, DLWC considers a range of environmental values under the NVC Act: biodiversity values (eg. condition, connectivity, richness); the potential for land and water degradation (eg. water pollution, wind





erosion, salinisation, flooding); and heritage and landscape values (eg. Aboriginal cultural heritage, other cultural heritage).

One of the biodiversity values DLWC considers is whether clearing applications are on land that is critical habitat or whether the clearing is likely to significantly affect a threatened species, population or ecological community, or its habitat. If so, under the *Threatened Species Conservation Act 1995*, the proponent must submit a Species Impact Statement which is assessed by the National Parks and Wildlife Service (NPWS) as well as DLWC. In these circumstances, clearing can only be approved after consultation with the Minister for the Environment.

Consent to clear native vegetation can be issued with conditions that involve actions on-site, such as tree-planting or fencing and managing areas for their biodiversity value. Current DLWC policy supports the use of 'trade-offs' when developing consent conditions. The *Staff Guidelines for the Assessment of Clearing Applications under the Native Vegetation Conservation Act 1997* identify where 'trade-offs' may be appropriate and provide guidance on the factors to be considered (see Appendix 2).

The NVC Act also provides for property agreements for the conservation and management of native vegetation. These are voluntary agreements between a land manager and DLWC and generally specify management arrangements for the native vegetation concerned. Property agreements can run for any specified period (including in perpetuity) and may be registered on the title to the land.

The NSW Government will shortly release for public discussion interim targets for native vegetation retention and revegetation. Initially, the Government will propose state-wide and interim bioregional targets for:

- the rate of clearing;
- the annual increase in area of native vegetation protected; and
- the area of land revegetated.

The interim targets will be reviewed by Regional Vegetation Committees and Catchment Management Boards. When finalised by the Government, they will guide the development of RVMPs and the assessment of clearing applications, and will help to prioritise revegetation effort.

Other relevant State legislation includes the *Water Management Act 2000*, which provides for water management plans that may regulate developments that affect water sources.

The NSW Salinity Strategy highlights the importance of retaining existing native vegetation to control salinity. Under the Strategy, Catchment Management Boards are developing catchment management plans which apply salinity targets to each catchment. These plans will also set targets for other priority issues in the catchment. The plans may guide the content of water management plans, RVMPs and other planning instruments and relevant consent processes (such as the consent to clear native vegetation).

3. PROPOSED PRINCIPLES FOR AN OFFSET POLICY

Four principles to guide the application of an offset policy are proposed.

Principle 1

An offset policy should be consistent with relevant Government policies.

Government policies for land, water and vegetation aim to balance the environmental, social and economic costs and benefits of development. They provide the context for assessing native vegetation clearing proposals. Those most relevant to an offset policy are:

- Targets for vegetation retention and revegetation (see previous section)
- Salinity targets adopted under the NSW Salinity Strategy
- Commitments made under the Intergovernmental Agreement on Salinity and Water Quality (in development)
- National goal of No Net Loss.

The implications of applying the national goal of No Net Loss at the State and regional level require further elaboration.

The NSW and Commonwealth

Governments signed a Partnership Agreement for the Bushcare program under the Natural Heritage Trust.

This Agreement established a national goal ‘to reverse the long-term decline in the quality and extent of Australia’s native vegetation cover’ by June 2001, commonly referred to as No Net Loss. The Agreement includes the following performance indicators:

- ‘The rate of native vegetation establishment in Australia exceeds the rate of vegetation clearance’ and
- ‘No activities that adversely affect the conservation threat category of ecological communities.’

A number of implications flow from the Bushcare Partnership Agreement:

- By seeking to reverse the decline in both quality and extent of native vegetation, the No Net Loss goal is effectively a ‘net gain’ goal.
- Clearing which significantly reduces the quality or extent of native vegetation requires an offset.
- Clearing of vegetation which a regional vegetation management plan (RVMP) designates as high conservation value is unlikely to be permitted.
- Clearing of vegetation which a RVMP designates as medium conservation value could be offset by enhancing the management of existing vegetation in the same or better condition (to improve quality) and revegetating or regenerating another area (to increase extent).
- Clearing of vegetation which a RVMP designates as low conservation value could be offset through revegetation or regeneration alone. This is because revegetation and regeneration generally produce vegetation with only low conservation value in the short to medium term.
- Clearing which is offset only by enhancing the management of existing native vegetation leads to a net loss in extent. This is only acceptable in well vegetated regions where clearing does not significantly reduce the area of any vegetation type at the regional level.
- Clearing (with offsets) would only be considered for approval after all other alternatives had been considered.

NSW will seek to achieve the No Net Loss goal through vegetation retention and revegetation targets, RVMPs and an offset policy. A State offset policy would set out how offset agreements would operate within the limits set by existing policies.

Relevant policies would include RVMPs, catchment management plans and their salinity targets. Where there is no RVMP, the offset policy would set out how and whether offsets could be applied.

Principle 2

An offset should lead to a net gain that improves the condition of the environment.

The discussion above indicates that the No Net Loss goal is effectively a net gain goal. It does not, however, identify who should be responsible for achieving that net gain. This Discussion Paper proposes that net gain should be partly met through offset actions related to clearing approvals.

An offset action should not only replace the environmental values lost through clearing, but also lead to a net gain that contributes to improving the condition of the environment. Meeting the environmental improvement targets in catchment, vegetation and water management plans is a responsibility shared by both government and the community. Through a net gain requirement, new developments would contribute to achieving regional natural resource targets. In this way, proponents would help to ensure the long term security of the landscape in which their business is operating.



It should be noted that offsets are one of a number of management tools for achieving sustainable native vegetation management. A suite of incentive instruments will be needed to achieve environmental improvement.

Potential offset actions include:

- **Revegetation:** native vegetation is returned to a previously cleared area by planting or seeding.
- **Regeneration:** management actions are used to encourage the growth of naturally occurring seeds and other plant material in a previously cleared area.
- **Restoration:** the quality and extent of an area of native vegetation is improved through revegetation and/or regeneration, combined with improved management.
- **Enhancement:** the quality of an area of native vegetation is improved through management actions.

Offset actions should only be used where there are good prospects that the offset action will lead to an improvement in environmental values. Where an offset action is not feasible or there is a high risk that it may fail, offsets could not be considered.

Offsets would not necessarily be appropriate for addressing the impacts of clearing on all environmental values. An offset policy should specify the values for which offsets are appropriate and those which must be addressed by other means.

Principle 2 leads to the following policy elements:

a) Offset actions should be based on 'like for like or better'

An area of vegetation can only be offset by an offset action involving a similar vegetation type or one with higher environmental value. This requires vegetation to be ranked based on the environmental values most relevant in the region concerned. For example, rankings might be based on the effectiveness of different vegetation types in managing salinity or on the rarity of vegetation types in the region.

b) Clearly defined, measurable units are needed to assess the environmental value of native vegetation and offset sites.

This will allow for consistent decision-making and the monitoring of compliance. It would also potentially create a 'currency' for a credit trading system, should one be developed in the future. Where complex environmental impacts and benefits are being assessed, it may be necessary to use qualitative judgments by accredited experts using common guidelines. The measurement of credits and debits is further discussed in section 4.

c) The offset action should be effective for the period that the clearing has an impact.

When native vegetation is removed and the site cultivated, some native vegetation values are lost permanently. The values lost should be offset through an offset action that is also permanent. If a trading system is introduced in the future, it may be possible to transfer the offset obligation from one site to another from time to time.

d) Offset agreements should be based on the best available science.

There has been a significant amount of research into the links between native vegetation and the movement of salt in the landscape. A number of land use changes (such as tree planting or perennial pastures) and engineering works have been found to be effective in mitigating the impacts of salinity. This research could be applied using expert panels and computer modelling. Similarly, there has been significant research into the carbon sequestration values of native vegetation.



Biodiversity values are much more difficult to measure and so the biodiversity benefits of offset actions are difficult to predict. Rather than being a single attribute of vegetation, biodiversity values encompass the full variety of ecosystems, species and genes, as well as the natural processes associated with them. Empirical data is limited and the understanding of complex ecological relationships is poor, particularly when attempting to predict the long term impacts of clearing.

There have been successes in rehabilitating degraded areas of vegetation through improved management, and in establishing a mix of native species on previously cleared lands. Most revegetation projects, however, lead only to vegetation with low biodiversity value and their long-term resilience has not yet been scientifically determined.

Given the dearth of research and data in this area, an adaptive and precautionary approach in relation to biodiversity values will be needed until our knowledge improves. This has a number of implications:

- Clearing linked to an offset action could not be justified if the impact of the clearing could not be estimated adequately, or the benefit of the offset action could not be predicted adequately.
- Ongoing monitoring will be required to assess the effectiveness of offset agreements.
- Offset requirements will be reviewed as knowledge improves.

Principle 3

An offset agreement should not lead to permanent environmental costs due to the delay before offset actions yield environmental benefits.

An offset agreement should not lead to permanent environmental costs due to a time lag – a period of transition in which the offset action is not yet performing the expected ecological function.

The problem of time lag is perhaps most significant where biodiversity values are concerned. While clearing has an immediate impact, recreating natural ecosystems can take long periods and the outcomes are uncertain. For example, values such as tree hollows can take more than 100 years to develop. If the clearing of hollow-bearing trees was allowed with replanting as an offset, regional extinctions could occur while the new hollows are developing.

Where salinity and groundwater are concerned, the impacts of clearing and the benefits of plantings can take decades to appear. There are similar delays related to carbon emissions associated with clearing native vegetation and in sequestering it through new plantings.

To account for these time lag problems, offsets should only be applied where:

- the values lost can be replaced at least as rapidly as they are lost (eg. fast responding aquifers, improved management of existing vegetation);
- where the loss of values causes no permanent harm (eg. clearing of young regrowth in well vegetated regions); or
- where clearing is postponed until the offset action is fully functional.

Where time lags are relatively short and the risk is manageable, it may be possible to compensate for time lag by increasing the number of offset ‘credits’ required. In this situation, a larger offset action would replace the values lost from clearing earlier than a smaller offset action. This is particularly relevant to salinity, where rising water tables can be more effectively controlled by increasing the area of vegetation planted, or planting vegetation in a more strategic site. In these cases, the offset site would eventually generate excess credits which could be used to allow further development.

Principle 4

Clearing should only proceed when the offset site is making acceptable progress towards the predicted ecological state and management arrangements are legally secure.

To avoid environmental harm occurring by a proponent defaulting on an offset arrangement, an offset site should have both ecological and legal protection before clearing proceeds.

In ecological terms, the offset site should be making acceptable progress towards performing the ecological functions that are expected in the long term. This does not necessarily mean that the site must be fully 'mature'. It may be sufficient to see that a specified environmental standard has been achieved before clearing commences (eg. ground cover greater than 50%, planted trees greater than 3 metres in height, water table height reduced by 20 cm).

Alternatively, it may be acceptable to see that certain actions towards implementing the offset have been taken (eg. fences erected, stock excluded, trees planted).

Under the 'standards' approach, the proponent bears the risk of an offset site failing and may seek to take out insurance to cover this risk. The proponent may benefit, however, if the offset site exceeds expectations. In this case the proponent would own additional credits which they could use to develop further or, if a market is in place, sell to others.

To ensure the legal security of the offset site, offset agreements should be enforceable legal instruments that cover both clearing consent conditions and management requirements for the offset site. Responsibility for compliance and enforcement must be clear in law and be seen to operate effectively. The US No Net Loss schemes (see Appendix 1) have been criticised for poor compliance and enforcement measures. The result has been that required offset actions have not always



been implemented. Ongoing monitoring and reporting, possibly by independent assessors, will be necessary to demonstrate compliance with the offset requirements.

There are a number of options for legally securing the offset arrangement, including:

- a legal commitment to carry out an offset activity in the future
- posting a monetary bond to be used as 'insurance' against the failure of an offset action
- temporarily conserving an area of existing native vegetation while the offset site matures.

If a market system was in place, the last option would allow landholders with existing vegetation to benefit financially through leasing them as temporary offset sites.

An offset policy would need a defined commencement date, after which both offset actions which generate credits and clearing which generates debits are measured.

This would help to ensure that an offset action leads to an improvement which offsets environmental values lost elsewhere. Simply maintaining current management on a site would not necessarily lead to an improvement and so would not count as a credit.

4. CALCULATING CREDITS AND DEBITS

An offset policy would be based on a system of calculating credits and debits. The proponent undertaking the clearing incurs **debits**, expressed as some units of environmental value. To compensate for this, they need to obtain **credits** by undertaking an offset action.

4.1 Measurement

The method for calculating credits and debits must recognise the complexity of natural ecosystems, yet be simple to apply. This is one of the key challenges of developing an offset policy.

In recent years there have been attempts to develop credit and debit systems for biodiversity, wetlands and native vegetation. In each case a set of environmental variables was identified and measured (such as habitat structural diversity, presence of weeds, topographic complexity and species richness). These measurements were then consolidated into a single numerical unit (the credit) to allow sites to be compared on a per-hectare basis. Although simple to apply, these approaches have been criticised for ignoring the complexity of ecosystems and under-representing ecosystem function. They have also been criticised for leading to a net loss of native vegetation by equating large areas in poor condition with small areas in good condition.

One way of addressing these difficulties is to leave the measurements unconsolidated. The impact of clearing would be described as a set of debits rather than a single debit unit (for example, the loss of x hectares of structurally complex habitat and y hectares of weed-free vegetation and z units of salinity control). Offset actions would need to adequately replace all of these units, although a single area could contribute a number of values simultaneously. The system may be able to be simplified when applied at the regional level, particularly where the offset action required for one

environmental value more than adequately meets the requirements for all other values.

Different types of offset actions would generate different quantities and types of credits. For example, establishing a tree plantation may generate more salinity credits but fewer habitat credits than fencing an area of remnant woodland.

4.2 Risk

The risk that the offset action will fail to deliver the expected credits should also be considered. Risks can arise because some offset actions are known to have a high failure rate (eg. tree planting in the arid zone) while others are less risky (eg. improving the management of remnant vegetation).

While there may be some actions so risky that they could not be considered as offset credits (see Principle 2), moderately risky actions may proceed as long as the risk of failure is factored into the offset action.

4.3 Determining the required offsets

When determining the credits required to offset a debit, a range of factors needs to be considered:

- the area of clearing;
- the negative impact per hectare of the clearing (expressed as a set of environmental values lost);
- the area of the offset action;
- the positive impact per hectare of the offset action (expressed as a set of environmental values gained);
- the risk of the offset action failing;
- the 'net gain' required for environmental improvement; and
- the adjustment for time lag (where applicable).

Bringing all these elements together in a consistent manner is difficult given the uncertainties raised above. Three possible options have been identified:

1. Regional offset ratios

An area-based offset ratio, and the circumstances in which it applies, could be specified for each vegetation type in a region. This ratio would be based on expert opinion and would need to be consistent with the offset principles. Given the gaps in scientific knowledge, judgments would need to be made about how to accommodate this uncertainty. To ensure this happened in a transparent manner, these ratios would be subject to community review.

While this approach would be relatively simple to apply and provide certainty for proponents, it would depend on relatively advanced knowledge of vegetation communities and their ecology.

A hypothetical example is presented below:

One hectare of clearing of native vegetation type A in recharge areas must be offset by:

- revegetating 10 hectares of A in a recharge area or
- revegetating five hectares of A in a recharge area and
 - securing and managing 2 hectares of A in near natural condition, or
 - securing and managing 4 hectares of A in modified condition, or
 - securing and managing 6 hectares of A in degraded condition.

2. Case-by-case evaluation using a formula

A general formula for calculating credits to match debits could be developed. This formula would show the relationship between all the relevant factors and allow offset arrangements to be calculated on a case-by-case basis. This approach would be useful where the regional knowledge base was poor and would allow offset arrangements to be tailored to the particular circumstances of each site. It would be more costly to administer than simple offset ratios and the offset requirement would be

difficult to predict until the proponent had done detailed investigations. Appendix 3 contains one possible formula for bringing together all the relevant factors.

3. Monetary contributions to a pool of funds

Instead of carrying out the offset action themselves, proponents could pay a sum of money to a body responsible for offset development and management. This is similar to section 94 contributions under the *Environmental Planning and Assessment Act 1979*. The number of credits required would be based on one of the two approaches above, but converted to a dollar cost based on market costs of establishing offset actions in that region. The fund would be Government-administered and could form part of the Environmental Services Investment Fund, announced in the NSW Salinity Strategy. This approach would be simplest for the proponent to manage and, by consolidating offset actions in larger areas, would be more economically efficient and environmentally effective.



5. DEVELOPING AN OFFSET AGREEMENT

This section describes how an offset policy might be implemented at the regional and property level. It describes the simplest situation where a clearing debit is offset by an action on the same property that generates a non-tradeable credit.

While the approach below is based on DLWC assessment of clearing applications under the NVC Act, native vegetation offsets might also be implemented by a local council. Section 11 of the NVC Act allows the Minister for Land and Water Conservation to exempt local council areas from the NVC Act if they have a local environmental plan that adequately deals with native vegetation conservation and management. Offset requirements could be part of such a local environmental plan.

There are five steps in implementing an offset agreement:

Step 1 Determine if clearing with offsets is permitted

Before investigating an offset agreement, a proponent should first find out whether clearing of this vegetation type in this location is likely to be permissible.

For example, clearing is unlikely to be permitted in critical salinity recharge zones either with or without offsets. Part of this information could be held in a regional vegetation management plan or catchment management plan and would be discussed with the land manager at an on-site pre-application interview.

Step 2 Determine the baseline conditions

Before an offset agreement could be developed, the condition of the land and its vegetation at both the clearing and offset sites would need to be determined so that credits and debits could be calculated. This would be carried out by the proponent, who would follow published guidelines, and verified by DLWC. It may also be possible

for DLWC to authorise an independent accrediting body to perform this function under the guidelines. This would require legislative amendment.

Step 3 Develop the proposed offset agreement

The broad approach to calculating the debits and credits required, using one of the methods set out in section 4.3, could be contained in RVMPs, their associated guidelines or a State offset policy (particularly where no RVMP is in place). This process needs to be relatively clear and simple to apply.

Step 4 Confirm the offset agreement

The proposed offset agreement, which covered both the clearing and the proposed offset action and its management, would be submitted to DLWC. This would be assessed to ensure consistency with the relevant plans and policies. The finalised agreement would comprise conditions associated with clearing, a statement of the baseline conditions at the offset area and a management plan for the offset area.

Under current legislation, management obligations for the offset area would fall to the owner of that land. The land title system could be used to keep track of changes in land ownership and any associated management obligations.

Step 5 Monitor for compliance

The management plan for an offset area should include monitoring and reporting requirements for the land manager. This would help to ensure compliance. Offset agreements would be monitored by DLWC as part of the compliance program for the NVC Act. A breach of an offset agreement would therefore be treated in a similar fashion to a breach of clearing regulations or a property agreement.

6. AN OFFSET POLICY – COSTS, ADVANTAGES AND OBSTACLES

6.1 Cost implications for land managers

An offset policy may allow land managers to clear native vegetation which would otherwise be refused permission for clearing. In this way it would provide some flexibility for development within the constraints of regional vegetation targets, catchment salinity targets, regional vegetation management plans and the No Net Loss goal. It is only after these plans and policies are in place that the full effect of introducing an offset policy can be accurately predicted.

There is value, however, in developing hypothetical case studies to test how some notional offset requirements might affect some typical farm developments. Three hypothetical farm development scenarios were considered in a preliminary study by NSW Agriculture*. Each scenario was tested for its sensitivity to changing commodity prices and different offset options. As offset arrangements will vary between regions and an offset policy has not been finalised, three hypothetical offset options (low, moderate and high) were developed for each scenario. These offset options involve a range of offset types with different levels of management effort and environmental benefit. In one scenario, the effect of a time lag constraint was tested. The results are presented in Table 1, page 16.

The main conclusions of the study were:

- For high income, capital intensive projects (such as irrigation development), the imposition of offsets is unlikely to threaten the viability of the proposal. This is particularly the case where offset actions require only moderate changes to management and where the production value derived from the pre-existing land use was relatively limited.

- Commodity price fluctuations are likely to have a greater influence over the financial attractiveness of high income, capital intensive developments than offset provisions.
- For development proposals generating comparatively lower returns per hectare (such as dryland cropping development) the imposition of offsets may impact on the financial viability of those proposals.

6.2 Advantages

Increased flexibility for land managers

By allowing clearing to proceed if its impact can be offset, an offset policy would provide increased flexibility to some land managers seeking to develop their properties. This is likely to be most attractive to those moving into high value industries where the cost of the offset action would be relatively small compared to the total cost of the development (eg. cotton, viticulture).

It may also be attractive to those with small scale development plans that have been hindered by native vegetation concerns (eg. the removal of scattered trees or a small clump of vegetation in an otherwise cleared paddock). In these cases, an offset action may allow the development to proceed.

Increased regional development opportunities

More flexibility for individual land managers should lead to increased development opportunities at the regional level.

* A complete copy of this report can be obtained from the contact officer in Section 1.2

Table 1: Summary of financial impact of hypothetical offset scenarios

(based on *A Preliminary Financial Analysis of Native Vegetation Management Offsets*, unpublished report by NSW Agriculture Economic Services Unit, June 2001. See section 6.1 for the background to this analysis.)

	OFFSET OPTIONS	RESULT
<p>Irrigated rice development, Hay Clear 250 ha of unimproved pasture which includes 40 hectares of Plains Wanderer Habitat.</p>	<p>High – fence and manage 150 ha of unimproved pasture, reduce stocking rates on this area and fund a monitoring report every 2 years.</p> <p>Moderate - fence and manage 100 ha of unimproved pasture, reduce stocking rates on this area.</p> <p>Low - fence and manage 75 ha of unimproved pasture, reduce stocking rates on this area.</p>	<ul style="list-style-type: none"> • Provides a positive return on investment under all offset scenarios. • All scenarios are more profitable than the existing land use. • Offset costs comprise 5-7% of the total development costs.
<p>Wine grape development, Gundagai Clear 200 ha of unimproved pasture in a salinity recharge area with scattered trees and small patches of degraded woodland.</p>	<p>High – fence and manage 200 ha of woodland, fence and plant trees on 200 ha of unimproved pasture, reduce stocking rates on these areas.</p> <p>Moderate - fence and manage 200 ha of woodland, fence and plant trees on 50 ha of unimproved pasture, reduce stocking rates on these areas.</p> <p>Low - fence and manage 200 ha of woodland, reduce stocking rates on this area.</p>	<ul style="list-style-type: none"> • Provides a positive return on investment under all offset scenarios. • All scenarios are more profitable than the existing land use. • Offset costs comprise 1-4% of the total development costs.
<p>Wine grape development, Gundagai (Time lag) As above.</p>	<p>The high, moderate and low offset options are as above, except clearing and development occurred five years after the offset action was carried out.</p>	<ul style="list-style-type: none"> • Provides a positive return on investment under all offset scenarios. • All scenarios are more profitable than the existing land use, but investment returns are lower with a time lag requirement. • Offset costs comprise 2-6% of the total development costs.
<p>Dryland cropping development, Walgett Clear 300 ha of native pasture previously cleared of trees and shrubs.</p>	<p>High - fence and plant trees on 300 ha of native pasture, reduce stocking rates on these areas.</p> <p>Moderate - fence and seed 300 ha of native pasture, reduce stocking rates on these areas.</p> <p>Low - fence and manage 300 ha of native pasture to encourage regeneration, reduce stocking rates on these areas.</p>	<ul style="list-style-type: none"> • Provides a negative return on investment under most offset scenarios. • Only the low offset scenario under average or high commodity prices is more profitable than the existing land use. • Offset costs comprise 24-48% of the total development costs.

Accounting for all impacts of development

The introduction of an offset policy will ensure that all impacts are more easily accounted for, minimising the negative effects of development on the environment and other land managers in the region.

Lead to a net environmental improvement

By requiring a 'net gain' for all new developments, an offset policy can be used as a mechanism for achieving targets for vegetation, salinity and other catchment values. This will contribute to environmental improvement and long-term regional sustainability.

Standardise current approaches to trade-offs

An offset policy would help to ensure that trade-offs for development are applied in a clear and consistent fashion both within and between regions.

6.3 Obstacles

Lack of accurate and sufficient research

Data and knowledge sufficient to predict the effect of an offset arrangement will not always be available and may take some time to collect.

Possible solutions

- Carry out further research.
- Introduce an offset policy in stages which reflect the adequacy of available knowledge and data.

Changing Government policy

Proponents will want to be sure that the value of their investment is not eroded by changes in Government policy, particularly in the area of clearing targets and compliance.

Possible solution

- Announce that targets and other measures in regional vegetation management plans (including contingency arrangements) will remain unchanged for a specified period before review.

Legal obstacles

There are two sources of uncertainty regarding current legislation and its scope for offset agreements:

1. Offsets (or trade-offs) can only be applied to the area of land proposed for clearing. This is because approval conditions can only be applied to the area in the clearing application and cannot extend to other areas of the same property or another property outside the application area.
2. Conditions of consent are only valid for the period of the clearing consent, generally between two and five years under current practice. There is no certainty that an area required to be retained or re-established as an offset as a condition of consent will continue to be managed in the same manner once that period has lapsed.

Possible solution

- Amend legislation to address these issues.

High transaction costs

In addition to the cost of clearing and establishing an offset site, there are costs in administering an offset scheme. These costs would include the maintenance of a register of offset credits and debits. A complex system without clear rules will have higher transaction costs than a simple, well-defined system.

Possible solutions

- Only introduce an offset policy in regions where the available data and knowledge are adequate to support a simple scheme with clear rules.
- The Government bears all transaction costs during an establishment period.

7. OFFSETS AND POTENTIAL MARKET MECHANISMS

An offset policy could be further developed by allowing the impacts of clearing on one property to be offset by action on another property. This would lead to a market for credits. The proponent seeking to clear would buy the required credits from the land manager who had undertaken the offset action. The seller and buyer would develop a legal agreement that linked the two sites and this would be approved by and registered with the Government. Alternatively, proponents could purchase the credits they need from a private broker who matched buyers and sellers, or from a central pool (possibly the Government's Environmental Services Investment Fund).

With tradeable credits, land managers would have an incentive to undertake positive vegetation management actions that generated credits, such as:

- improving the management of areas of degraded vegetation;
- improving the management and protection of existing vegetation through instruments such as voluntary conservation agreements and property agreements;
- revegetating previously cleared areas; and/or
- planting new native vegetation.

The credit site and an associated plan of management would be assessed and accredited for the amount and type of credits the site provides. Sites would only be accredited if the site's management changed after the commencement date of an offset policy, taking it above a specified benchmark. The plan of management could allow other productive uses of the site (eg. grazing or timber harvesting under specified conditions) where these uses were compatible with the credit action. While accreditation would initially be carried out by State Government, in the future, private accreditors may be authorised to do this.

Following an accreditation process, credits could be:

- used by the land manager to allow clearing on their own property;
- sold to enable clearing on another property;
- sold to an investor or broker and 'banked' for future use; and/or
- incorporated into the sale value of the property.

An offset policy would need to define a 'bubble' or boundary within which offset actions must be taken. This boundary should be determined by the scale at which the vegetation is significant, based on State and regional targets and regional and catchment plans. For example, in a hypothetical region:

- salinisation may be significant at the catchment, subcatchment or aquifer scale;
- conservation status is generally assessed at the bioregional scale; and
- vegetation with connectivity value may be significant at the sub-regional or property scale.

The bubble would also define the geographic boundary for credit trading. For example, a credit might not be able to be traded beyond the subcatchment in which the credit site is located.

7.1 An early credit scheme

If the Government made an in-principle decision to proceed with an offset policy that allowed offsets to occur on a separate property from the site of the clearing, an 'early credit' scheme could be established. This would only require the announcement of a commencement date and the establishment of a register of credit sites. A similar idea has been proposed for greenhouse gas emissions.

In such a scheme, land managers could register a baseline description of a site and its vegetation, and then carry out actions that would be likely to generate credits. The number of credits the site generates would not be known until the details of the offset scheme were established. When that occurred, those with early credits could establish the credit value of their site and sell credits to those seeking to clear. The taxation implications of an early credit scheme would need careful consideration.

An early credit scheme could provide some incentive to land managers to begin generating credits and to be able to enter the market as soon as it is established. It would also increase the likelihood that functioning credit sites are available in regions where time lag is a significant hurdle to clearing with offsets.

7.2 Advantages of an offset market

Increased regional development opportunities

By allowing some farmers to offset their clearing through positive actions on other properties, there would be an increase in regional economic activity from new agricultural enterprises.

Farmers rewarded for positive vegetation management

Farmers would be able to diversify their income and benefit from development elsewhere in the region by carrying out positive vegetation management on properties where other types of development may not be possible.

More effective remediation measures

By allowing offset actions to occur anywhere within a defined boundary (eg. a region or catchment), remediation could occur at the site of greatest environmental benefit and least risk, rather than on or near the development site where the potential benefit may be limited.

More cost-effective remediation measures

By allowing offset actions to occur anywhere in a region, remediation could occur at the most economical site, allowing cost savings for the individual and the community and stimulating technological innovation.

7.3 Obstacles to establishing an offset market

Lack of accurate and sufficient research

If markets are to be established, investors will need certainty about the potential credit value of the sites they invest in. This will be determined by the accrediting body, that will assess the site based on knowledge current at the time of the assessment. While knowledge, and therefore the potential value of a site, may change over time, investors will want an assurance that the accredited value of their site will not change.

It should be noted, however, that realising the potential value of a site depends on ongoing management. This is the responsibility of the land manager.

Possible solutions:

- Carry out further research to identify the information base necessary to encourage investment in credit sites.
- Attach a confidence rating to a credit, which indicates a level of certainty about its value.
- Provide legislative protection for the potential credit value of sites at the time they are accredited.

Transaction costs

The transaction costs of a market would include the cost of administering credit trades, maintaining registers which linked clearing and offset sites, and the cost of separately assessing credit and offset sites. Administrative costs would be reduced, however, because the clear trading rules which underpin the market would mean less case-by-case assessment of sites.

Possible solutions:

- Only introduce an offset policy in regions where the available data and knowledge are adequate to support a simple scheme with clear rules.
- Allow groups of land managers to submit joint applications for credits and debits and share the costs.

Absence of institutional structures

If a market approach is to be used, a method of administering and monitoring trades to limit the possibility of anti-competitive behaviour will be needed.

Possible solutions:

- The Government acts as a broker, matching buyers and sellers.
- Private brokers become established in response to market pressure.
- The Environmental Services Investment Fund commissions credits and sells them on to proponents. This could also help to stimulate the market.

Small market due to limited opportunities for clearing

In regions where opportunities for clearing are limited due to the high conservation value of the remaining vegetation, the market for offsets would be small. This would provide little encouragement for farmers to earn income for generating offset credits.

Possible solutions:

- Establish an offset policy which encompasses new developments other than native vegetation clearing (eg. irrigation, mining) whose impacts can be offset through improved native vegetation management (see the next section).



8. EXTENDING OFFSETS TO OTHER FORMS OF DEVELOPMENT

This section briefly discusses a further possible extension of native vegetation offsets to compensate for the environmental impacts from developments which do not involve NVC Act approval. For example:

- mines, sewage treatment plants and factories such as tanneries, may discharge salt;
- vegetation clearing in urban areas (not covered by the NVC Act) can harm biodiversity, landscape and heritage values; or
- changing land use can increase the risk of dryland and irrigation salinity or water pollution.

In each of these cases, it may be possible to either mitigate or compensate for some of the environmental impacts of the development through a native vegetation offset. This could

only be developed once a vegetation offset policy was operating effectively.

Extending offsets to other forms of development would require a regulatory system which implemented regional and/or catchment targets for environmental condition. This regulatory system would effectively place a ‘cap’ on development and then require new developers to offset their impacts to stay within this cap. For developments which already require consent under State laws such as the Environmental Planning and Assessment Act or the Water Management Act, such a regulatory system is already in place. Water management plans, regional environmental plans or local environmental plans could identify offset arrangements for particular areas and activities.

Offset arrangements could be used to compensate for unsustainable land use, such as salinity inducing practices, identified in catchment management plans developed by the community.

Extending offsets to non-NVC Act developments would require:

- ‘currencies’ for measuring the impacts (debits) of these developments;
- conversion factors for relating the impacts to native vegetation credits; and
- specified boundaries within which offsets were to occur.

These would need to be acceptable to the consent authorities for those activities.

If market mechanisms were to be used, a single trading system would be needed, involving the same register and market place as that for native vegetation offsets. This would make the vegetation offset market more robust, particularly in regions where there were few opportunities for further vegetation clearing, and provide greater scope for land managers to supplement their income through improved vegetation management.



9. NEXT STEPS

9.1 Designing the offset scheme

If the Government decides to pursue an offset policy for NSW, further work will be needed on its implementation details. This will require action to address the key obstacles identified in section 6.3, specifically:

- reviewing the adequacy of regional data and knowledge;
- developing a system for determining offset credits and debits; and
- developing appropriate institutional arrangements for offset agreements.

A draft offset policy, which addresses the major issues raised in this Discussion Paper, would then be developed as a basis for a pilot project.

9.2 Piloting the offset scheme

A pilot project would trial administrative arrangements, assess the attractiveness of an offset scheme to land managers and consider its economic impact at the regional level.

The site of the pilot scheme would need to be a region in which:

- sufficient data and knowledge is available;
- there is significant demand for clearing; and
- the community supports the development of a pilot project.

Once a site had been selected, regional guidelines would be developed in consultation with the community. The pilot project will either be restricted to offsets within properties or could trial an offsets market on a regional basis. Land managers with unsuccessful clearing applications could work with DLWC to assess whether an offset agreement could allow their development to proceed.

If it was found to be effective, a State offset policy could be finalised.



APPENDIX 1

(NB: A list of the references used to develop this paper can be obtained by emailing pcwright@dlwc.nsw.gov.au)

Offset schemes outside the *Native Vegetation Conservation Act 1997*

1. No net loss policies for wetlands and endangered species in the USA

In America, it is illegal to fill in a wetland without a permit from the US Army Corps of Engineers. The Corps aims to implement a goal of no net loss of wetland areas. If damaging impacts to wetlands cannot be avoided or acceptably minimised, then they must be compensated through conditions on the permit requiring specific mitigation measures.

Any activity that incurs a debit by damaging wetlands requires a compensatory credit to be achieved. These credits can be generated on-site (through for example restoring part of the wetland), or off-site through payments to a 'wetland mitigation bank.'

This concept has been extended to upland areas in California through the California State Government's endangered species legislation and its policy on Conservation Banking. These aim for a goal of no net loss of endangered species habitat (although this concept is not explicitly stated). Any activity that incurs a debit by negative impacts on endangered species habitat must be compensated by a credit. Developers can gain credits by improving habitat or making a payment to an off-site Conservation Bank.

These American policies have been heavily criticised for leading to the managed loss of environmental values, rather than achieving their stated aim of 'no net loss'. Ongoing issues with such systems have included:

- difficulties in measuring credits and debits;
- whether out-of-kind mitigation is permissible (that is, where a credit is of a different environmental type to the debit, so an activity damaging a scrub wetland

can be offset by improvements to a forested wetland);

- the sequencing of the damaging activity and the offset action (that is, the time lag before the credit is effective);
- concerns about ensuring compliance; and
- whether protecting existing habitat can generate credits.

2. Offset policies for air pollution in America

The US Environmental Protection Agency's New Source Review program aims to minimise pollution from large new and modified developments that could impact on regional air quality. In regions which do not meet National Ambient Air Quality Standards (called non-attainment areas), new developments must always provide or purchase 'offsets' (decreases in emissions) to compensate for the increase from the new or modified source. The policy usually requires developers to contribute to meeting the pollution standards by providing or purchasing offsets at a ratio of greater than 1:1, so that there is a net reduction in emissions.

The program is implemented through State agencies, which use slightly different approaches. New York State has an emissions reductions credit scheme. Major facilities in non-attainment areas can provide credits by making physical or operational changes to their facility that reduce its output of pollutants. These facilities can then sell the credits to new developments to counter their emissions. The scheme helps meet emission targets by requiring greater-than-compensation (that is, a ratio of greater than 1:1).

Pollution offset policies are relatively simple to implement and administer, incorporate all sectors and allow environmental outcomes to be achieved at minimal cost. They depend for their success on environmental costs and benefits that are easily quantified.

3. Compensatory aquatic habitat in New South Wales

No net loss of aquatic habitat is an approved NSW Fisheries policy. When developments are proposed which would have a damaging impact on habitat, NSW Fisheries can require compensatory actions as a condition of consent. These could, for example, involve transplanting seagrass or constructing fishways. Alternatively, developers can make payments into a Conservation Trust Fund used to undertake strategic rehabilitation projects throughout NSW waters.

A monetary bond may be required (for example up to \$250,000 per hectare for

seagrass), as a form of insurance against the offset action failing. Habitat compensation is calculated on a 2:1 basis for vulnerable habitats, to compensate for the indirect impacts of the development in the catchment. Before habitat is destroyed, NSW Fisheries must be satisfied that the compensatory site is in an acceptable condition. Consent conditions require the proponent to report annually on the progress of the offset action.

As this is a relatively new policy, it has only been used in a limited number of cases so it is difficult to assess the effectiveness of the offset actions.

APPENDIX 2

Extracts regarding ‘trade-offs’ from *Staff Guidelines for the Assessment of Clearing Applications under the Native Vegetation Conservation Act 1997* (Department of Land and Water Conservation 1999).

“Trade-offs should strive to achieve a net environmental benefit whilst meeting landholders’ needs. This could involve the increased protection and better management of existing vegetation to improve the quality and condition of that vegetation, possibly in return for clearing vegetation that is less significant, eg. vegetation that is degraded.

“In general:

- Clearing should be directed from vegetation of higher value to areas of lower value.
- The lower value vegetation (that may be approved for clearing) may have values which should be offset by other ‘trade-offs’.
- Tree planting on existing cleared land is not to be encouraged as a ‘trade-off’ for clearing. Whilst re-vegetation is an important action, its ecological benefits may only be realised in the long-term, and will not usually be an effective trade-off for clearing.

“The commitment by the landholder to the ‘trade-off’ must be ‘real’, to ensure that areas proposed for protection (in return for clearing) are actually protected. The only way to ensure this occurs is for the ‘trade-off’ to be included as a condition of development consent for clearing.

“Encourage the landholder to include areas that may be subject to the negotiation in the area under application, that is, all areas proposed for clearing and retention...

“Significant environmental benefits which result from the development may include...the negotiation of positive environmental ‘trade-offs’ which will result in improvements to the extent, condition or connectivity of native vegetation, or

protection of vegetation of high conservation value, elsewhere on the property...”

The Staff Guidelines suggest a number of decision-making policies that involve trade offs:

“(3) If a proposal will have a significant effect on vegetation connectivity, the proposal should be modified to ensure that connectivity is maintained. This may take the form of:

- looking at alternatives, or
- modifying the proposal to mitigate against impacts on connectivity, or
- negotiating positive environmental ‘trade-offs’ that do not impact on the connective value of the vegetation.

If modification is not possible then the proposal will require significant economic benefit and appropriate ‘trade-offs’ to proceed.

“(4) If the vegetation affected by a proposal is considered to be in very good condition the area containing the vegetation should be excluded from the development by:

- looking at alternatives, or
- modifying the proposal to mitigate against impacts which may reduce vegetation condition, or
- negotiating positive environmental ‘trade-offs’ that will not reduce the condition rating of the vegetation.

If exclusion is not possible then the proposal will require significant economic benefit and appropriate ‘trade-offs’ to proceed.

“(5) If the vegetation affected by a proposal is considered to have high conservation status significance the area containing the vegetation should be excluded from the development by:

- looking at alternatives, or
- modifying the proposal to mitigate against environmental impacts, or

- negotiating positive environmental ‘trade-offs’ that will not reduce the conservation status significance rating of the vegetation.

If exclusion is not possible then the proposal will require significant economic benefit and appropriate ‘trade-offs’ to proceed....

“(7) Proposals that will result in increased environmental decline of regional natural resources such as contributing to increase in catchment

or downstream salinity should be refused or modified to ensure these impacts do not occur by:

- looking at alternatives, or
- modifying the proposal to mitigate against impacts, or
- negotiating positive environmental ‘trade-offs’ that will not cause environmental decline of regional natural resources.”

APPENDIX 3

Formulae for calculating credits and debits

The formulae below represent one approach to expressing the mathematical relationship between the factors identified in section 4.3. There may be others which are more suitable. It may be possible to simplify the formula considerably when it is applied at the regional level. Further development of a suitable formula would be necessary for any future offset policy.

$$\text{Debit} = \text{Impact factor} \times \text{Area cleared}$$

$$\text{Credits required} = \text{Debit} \times \text{Net gain requirement}$$

$$\text{Credits generated by offset site} = \text{Offset area} \times \text{Offset factor} \times \text{Time lag factor}$$

WHERE

Debit = the total quantity of a particular environmental value lost through clearing
(The units would depend on the environmental value – eg. tonnes of salt/year prevented from passing the end-of-valley, high quality Plains Wanderer habitat units.)

Impact factor = the quantity of a particular environmental value lost through clearing each hectare
(The units would be a per hectare expression of the environmental value)

Area cleared = the area of land cleared with the environmental value (Hectares)

Credits required = the quantity of a particular environmental value required for an adequate offset arrangement.
(The units would be the same as for debit)

Net gain requirement = the contribution that each offset arrangement must make to meeting regional environmental targets. (Percentage eg. 110%)

Credits generated by offset site = the quantity of a particular environmental value generated by an offset site over a particular period of time.
(The units would be the same as for the debit)

Offset area = the area of land developed as an offset site (Hectares)

Offset factor = the effectiveness of one hectare of a particular offset action in generating the a particular environmental value adjusted for the risk of it failing.
(The units would be the same as for the impact factor but the value may differ.)

Time lag factor = the increase in area required to offset the short term impacts of early clearing (not applicable in all situations).
(The units would be a percentage which varies depending on the time before clearing commences – eg. 300% to allow immediate clearing, 150% to allow clearing to commence in 5 years, 100% in 10 years.)

For more information

If you would like more information, contact your local office of the Department of Land and Water Conservation or visit our website.

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