



Department of Water Affairs and Forestry
Republic of South Africa

**A GUIDE TO MINIMIZING THE
LIABILITY FOR AND QUANTUM OF
COMPENSATION**

22 OCTOBER 2004

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1. INTRODUCTION

1.1 BACKGROUND

The United Kingdom's Department for International Development (DFID) has agreed to continue and extend its support to the water and forestry section in South Africa through its Water and Forestry Support Programme (WFSP). The WFSP has been jointly formulated by DFID and the Department of Water Affairs and Forestry (DWAf) and consists of various elements.

The element that this task forms part of, focuses on the Water Resources Component of the WFSP, with the purpose to establish a water use allocation process that will help to alleviate the plight of the rural poor. In water rich catchments this will focus on identifying opportunities to use the available water productively and on supporting these enterprises.

In water stressed catchments, the process of allocating water use will have to focus on the equitable redistribution of water use allocations, and to stretch the available resources to meet the demands. The mechanism that will most probably be used for this is Compulsory Licensing.

The DWAf's intention is to develop approaches that will as far as possible avoid curtailing existing lawful water use. However, it is recognised that this will not always be possible and that in some instances reductions may be unavoidable to achieve equitable water use allocations.

The National Water Act makes provision that compensation can be paid (with certain exclusions) where existing lawful water use is significantly curtailed. However, it is not certain what factors the Water Tribunal will take into account when determining compensation. All South Africans also have a right to fair administrative governance. The process by which existing lawful water use is curtailed should therefore be fair and transparent.

1.2 PURPOSE OF THE STUDY

The purpose of this study is to identify and unpack the factors that may be taken into consideration when compensation for the curtailment of an existing lawful water use is contemplated. A second objective is to determine how the quantum of the compensation could be calculated.

1.3 PURPOSE OF THIS REPORT

The purpose of this report is to summarise the findings of the team that investigated the legal factors pertaining to compensation, as well as a methodology to determine the financial impact of water use curtailments.

2. LEGAL FRAMEWORK

2.1 CONSTITUTION

2.1.1 Environmental protection and access to water

The constitutional mandate with respect to water starts with the principle that every person has a fundamental right to an environment that is not harmful to his or her well-being, and that the environment must be protected for the benefit of the present and future generations. Water resources form part of the environment, and their protection should be attained by means of reasonable legislative and other measures. These measures should promote justifiable economic and social development that is ecologically sustainable.

Every person also has a fundamental right to access to sufficient water, and the State must therefore take the necessary steps through legislation and other measures to bring this about. This right, namely access to sufficient water to sustain life and remain healthy, is paramount. However, quantities required for this are normally small in relation to other water uses, and are therefore seldom at issue.

The Constitution also requires that equitable access to water resources is brought about, and the State is not impeded to take legislative and other actions to undertake water use reform to bring this about. These measures should redress the results of past racial discrimination and bring about gender reform.

2.1.2 Water use allocations as a property

“Property” as contemplated in the Constitution is a word with such a wide variety of meanings that it is almost impossible to define it accurately or exhaustively. The interpretation of the Courts of what property means, has resulted in a shift from “ownership” to “rights to property”. Although it includes ownership, it is not limited to it.

“Property” can best be defined as the set of legal rules governing the relationship between individuals and physical property, which is known as rights to property. This includes rights such as ownership and the component rights that make up ownership, such as the right to alienate a thing, to use it, to derive income from it, or exclude other people from it.

“Property” therefore includes an established entitlement to use water, and an existing lawful water use can therefore be seen as a property.

A person may not be deprived of property, except in terms of the law of general application and no law may permit arbitrary deprivation of property.

Property may only be expropriated for a public purpose or in the public interest, and is subject to payment of compensation.

2.2 DESTINCTION BETWEEN DEPRIVATION AND EXPROPRIATION

Deprivation implies interference with the use, enjoyment or exploitation of property. It relates to the power of the State to regulate the activities of individuals without the obligation of pay compensation. An example would be the prohibition of disposal of waste on land owned by an individual. It therefore arises from the fact that the State must regulate the activities of individuals in the national interest.

Deprivation is the dispossession of a right in property which does not involve the acquisition of the right by the dispossessing authority. It is therefore merely the limitation of the extent of the use of the property. It may go so far as to constitute an effective extinction of the property rights, as long as the rights are merely extinguished and not acquired by the public authority.

With respect to water use, restrictions on the quantity of water that is used during periods of drought, can therefore be seen as deprivation, as no rights have been acquired. There is therefore no obligation on the State to pay compensation with respect to these restrictions.

Expropriation on the other hand relates to the extinguishing of rights of individuals. The Constitutional Court indicated that expropriation means the compulsory acquisition of rights in property by a public authority, which could be transferred to a third party. It therefore differs from deprivation in that the State takes away a right in property from an individual and either keeps it for itself or passes it on to someone else.

In terms of water use, the above can be interpreted to mean that, if the State reduces the assurance of supply for an existing lawful water use and in doing so frees up water that is then allocated to another user, this constitutes an expropriation and not a deprivation.

It should be noted that, although compensation is payable when a right in property is expropriated, the quantum of compensation payable relates to the financial impact and can in fact be very small.

2.3 THE NATIONAL WATER ACT

The National Water Act (NWA) gives effect to the requirement of the Constitution to bring about equitable access to water, and also to bring about sustainable development of water resources. The NWA therefore gives the Minister the power to regulate water use in the public interest, and also to re-allocate water use allocations in order to rectify the injustices of the past and to bring about gender reform.

The legality of the NWA and the Minister's power to re-allocate water allocations are therefore not at issue, as long as the process is administratively fair and it is done either in the public interest, to protect the water resource or to bring about equitable access to water and/or gender reform.

What is at issue is under what circumstances compensation is payable. It should be noted that there rests an obligation on the State to avoid having to pay

compensation, and where this is not possible, to minimise the amount that is payable. At the same time there is an obligation on the State to avoid costly legal action.

In terms of the NWA, a person may claim compensation if the Compulsory Licencing process is applied and restrictions is placed on the use of water in respect of an existing lawful water use. The restriction should result in severe prejudice to the economic viability of the undertaking concerned. However, the amount of compensation payable must be determined by disregarding any reduction in the existing lawful water use made in order to:

- Provide for the Reserve (i.e. protect the resource),
- rectify an over-allocation, or
- rectify an unfair or disproportionate water use.

3. WHEN IS COMPENSATION PAYABLE

The question on whether or not compensation is payable rests on whether or not the restriction on water use constitutes a deprivation or an expropriation. The test to distinguish between the two is whether or not a third party benefits from the restriction or not in that he or she acquires water to be used. If a third party benefits, then it constitutes expropriation and compensation should be considered. However, depending of the circumstances, the quantum of compensation could be small, even zero under certain circumstances.

3.1 WATER FOR THE ECOLOGICAL RESERVE

Restrictions on water use to allow for the ecological reserve mostly have to do with restrictions during low flow conditions, and therefore constitute a deprivation as no person acquires water to be used. The restrictions should be applied equitable on all users within a sector. If only one user or a group of users is restricted, this is clearly to the benefit of other users, and in that case it will constitute an expropriation and compensation can be claimed.

It is an open question on what constitutes protection of the resource. At present the Reserve is dependent on the classification of the resource, and the higher the Class, the more water is required for the Reserve. Setting the Class for a resource higher than a Class D, which is the minimum for sustainability, can therefore be

seen to be to the benefit to a third party (the public for instance) and the additional water required would constitute an expropriation.

3.2 WATER FOR BASIC HUMAN NEEDS

Any alteration or reduction in an existing lawful water use to provide water for basic human needs would be an expropriation, as the entitlement is transferred from one person to another.

3.3 RECTIFYING OVER-ALLOCATIONS

Any alteration or reduction in an existing lawful water use to rectify an over-allocation would be a deprivation as no rights have been acquired or transferred.

3.4 RECTIFYING UNFAIR OR DISPROPORTIONATE WATER USE

Any alteration or reduction in an existing lawful water use to rectify unfair or disproportionate water use, would constitute an expropriation, as the entitlement is transferred to a third party.

3.5 WATER TO MEET INTERNATIONAL OBLIGATIONS

An international obligation falls in the same category as the ecological Reserve. As long as the alteration or reduction in allocation is done equitably and only to meet the minimum legal obligation, it constitutes a deprivation. Should the State, for whatever reason, make more water available to the neighbouring state, the additional water would constitute an expropriation.

3.6 OTHER PURPOSES

It may be in the public interest to transfer an entitlement from one user to another, such as from irrigation to power generation. This could take place as a trade between the irrigator and power generation operator or the entitlement could be expropriated..

In the case of a trade, the power generation operator pays the price agreed to between the irrigator and the operator to the irrigator. It is voluntary and a private transaction between them and the responsible authority only plays a role in accepting the surrender entitlement and authorising the water use by way of a licence.

In the case of an expropriation, section 64 of the NWA allows for the expropriation of individual water use entitlements. In this case it is clearly a property that is expropriated, and the Expropriation Act, No 63 of 1975 applies.

In terms of section 64 individual entitlements could be expropriated, while in terms of the Compulsory Licensing process restrictions are placed on a group of users. This is done in the national Interest and according to section 22(6) and (7) of the NWA. However, since the action is still to the benefit of either the State or a third party, it cannot be seen as deprivation, and compensation can be claimed. The quantum of compensation could be small, or even nothing. However, if the restriction does not result in severe economic prejudice to the undertaking that is restricted, no compensation is payable.

4. SEVERE ECONOMIC PREJUDICE

When restrictions on water use allocations (existing lawful water use) are applied as part of a Compulsory Licensing process, it almost always will constitute an expropriation and compensation can be claimed. Exceptions are when the restrictions are intended to meet the minimum requirements to protect the resource, rectify over-allocations, rectify unfair or disproportionate water use or to meet international obligations. However, no compensation should be paid unless the undertaking on which the restriction is placed suffers severe economic prejudice.

At present there are no guidelines on what constitutes severe economic prejudice, nor has this been tested in a Court yet. This chapter will therefore examine the concept and in doing so, propose a definition that can be applied in practice. As it is expected that, in most cases, reallocation will involve restrictions on existing lawful water use for irrigation purposes, it is that use that will be focused on.

A financial model to calculate some examples and illustrate the principles has been developed as part of this study.

4.1 INCOME PARAMETERS

As in any business venture, when developing land for irrigation purposes capital is invested with the objective to realise a profit. As long as this profit is reasonable, the entrepreneur suffers no severe economic prejudice, even though in real terms

his profit is reduced. Clearly there is no obligation on the State to perpetuate a situation where better than expected profits are realised, nor should compensation be paid if such a situation is normalised.

The question then arises on what is reasonable. In the case of agriculture, and specifically an individual commercial farmer, the point of departure is that sufficient profit is made to cover his/her cost-of-living and to realise a realistic market related yield on the capital that is invested. For this reason it is necessary to define the concept of “cost-of-living” and to calculate a reasonable yield on capital investments.

4.1.1 Size of undertaking

In order to facilitate calculations, it is necessary to normalise all parameters to a per hectare value. However, this raises some difficulties, as some costs, such as the cost-of-living, remains the same irrespective of the size of the undertaking. A small farmer will therefore have to realise a larger profit per hectare in order to cover his cost-of-living than a large farmer. For this reasons the calculations were done for small farms, medium farms and large farms. The size of undertaking that constitutes large, medium and small will vary between crop types. For the purposes of this investigation, the cut-off values for different crops is shown in the table below.

Table 4.1: Cut-off sizes relating to small, medium and large undertakings for different crop types (all values in ha)

Crop type	Small	Medium	Large
Pastures	9 – 50	50 – 150	> 150
Orchards	18 – 50	50 – 100	> 100
Annual crops	55 – 120	120 – 200	> 200
Fodder crops	50 – 65	65 – 100	> 100
Sugar	35 – 50	50 - 150	> 150

There is a minimum size of undertaking below which it is not possible to realise a reasonable profit, as the turnover becomes too small to cover fixed costs. This can be taken as the lower size quoted for a small undertaking as shown in **Table 4.1**.

4.1.2 Cost-of-living

The cost-of-living represents what can be seen as a reasonable income for a middle class family in South Africa. For the purposes of this exercise it is equated to the salary of a senior male teacher, plus the income of a secretary in order to make provision for the fact that most South African middle class households have a double income.

This income must be adjusted by the fact that there are certain benefits that arise from living on a farm, such as cheap housing and produce for household consumption.

4.1.3 Yield on capital

The average yield on capital in the South African economy is 4 % (excluding inflation). This value was accepted for this investigation.

4.1.4 Representative Farm Composition

In determining water reduction cut-off points for a particular farm, water reduction relates to irrigation application, and not the total water applied, which includes rainfall. However, it is important to have a holistic view of a typical representative farm in the analysis. This is due to the fact that a typical representative farm does not only comprise of an irrigated portion. Its composition can also include livestock farming or dry land agriculture.

To assume that in a representative farm income or benefits accrued are only generated by irrigation agriculture will not be a true reflection of the actual farm situation. For instance in certain areas such as the Upper Orange River, most farms generate a large percentage of their revenue from livestock whereas irrigation agriculture is regarded only as an auxilliary mode of farming. The Water Application Financial Model (WAFM) was constructed to accommodate the total farming activity and not only the irrigation portion of a farm.

4.2 CROP YIELD PARAMETERS

The quantity of water that is required to realise a reasonable crop yield is dependent on many factors such as climate, soil and irrigation method. In order to standardise the calculation, the irrigation requirements as determined from the

South African Plant Water (SAPWAT) model associated with sprinkle irrigation are used.

It was furthermore accepted that crop yield is directly proportional to the total water applied, i.e. irrigation plus rainfall.

4.3 CROP BUDGETS

Crop budgets were obtained from the Department of Agriculture's Combud Data, for the following elements:

- variable costs (energy, etc)
- Marketing costs
- Fertiliser
- Microelements
- Pesticides and herbicides
- Irrigation equipment
- Land preparation
- Plant material.

4.4 CALCULATION OF SEVERE ECONOMIC PREJUDICE

In simple terms the cut-off where severe economic prejudice would occur, is when the farmer cannot realise the minimum profit that is required to provide for cost-of-living and yield on capital.

The calculation was done for the case where a farmer will cultivate more than one crop type. The gross margin (crop revenue minus production costs) is calculated for each crop type and these are added together. This represents the gross farm income, from which the fixed costs that are common to all the crop types are subtracted to arrive at the net farm income. As long as the net farm income exceeds the minimum cost-of-living plus the yield on capital invested, no severe economic prejudice occurs.

It is of course possible to do the calculation in reverse, namely to start with the minimum required net farm income, and to end with the required water quantity. This can then be used to determine the minimum water allocation.

It should be noted that in the above, average values are used as benchmarks, and that the element of risk (variations in rainfall, changes in prices, etc) is not taken into account. The calculation will therefore tend to yield optimistic values.

4.5 ILLUSTRATIVE RESULTS

To illustrate the applicability of the Water Application Financial Model, three pilot studies have been done. Firstly, a pilot study representing various crops as well as two other pilot studies each representing a specific catchment.

It is important to note that this exercise was only a desktop study to illustrate certain principles and the results should not be used for implementation purposes.

Pilot Study A Representative Crops

In this model the following representative areas were selected in terms of their representative crops:

Crop types	Representative Area	Size of areas irrigated per farm		
		Large (ha)	Medium (ha)	Small (ha)
Sugar	Pongola and Mhlatuse	300	120	50
Annual Crops	Van der Kloof to Hopetown	300	200	110
Orchard Crops	Lower Orange River	75	50	20
Fodder Crops	Area between Boegoeberg and Hopetown	100	65	40
Pastures	Upper Orange River	200	100	50

In Table 4.2 the irrigation application cut-off points for severe economic prejudice to occur is shown for representative crops.

Table 4.2: Irrigation application cut-off points for severe economic prejudice to occur (as percentage of required optimum irrigation) – Representative Crops

Crop type	Area of Farm Irrigated		
	Large	Medium	Small
Pastures	27 %	22 %	19 %
Orchards	89 %	88 %	87 %
Annual crops	31 %	29 %	25 %
Fodder crops	50 %	48 %	46 %
Sugar	57 %	53 %	50 %

In this representative crop pilot study it was on purpose decided to choose areas where irrigation is only a part of an overall farm. From Table 4.2 it is evident that irrigation can be reduced significantly before it really affects the viability of the farm. This is not only true for farms where a large proportion is irrigated but also true for farms with small areas under irrigation.

A case in point, in terms of orchards, where the selected area is the Lower Orange River, the cut-off points are almost similar for different farms with different areas under irrigation. In the two other case studies where irrigation is a dominant farming activity the irrigation application cut-off points for severe economic prejudice to occur is much lower and differs in terms of farm size.

Pilot Study B: Vaalhartz Irrigation Scheme

In the Vaalhartz Pilot Study, the following crop breakdown has been used as well as the size of farm units per crop.

Crop	Percentage Structure	Hectares
Wheat	34%	31 182
Maize	24%	22 455
Peanuts	20%	18 218
Cotton	9%	8 643
Lucerne	13%	12 117
	100%	92 615

The farm size per crop category in the Vaalhartz pilot study is set out below:

Farm Size

Crop	Area of farm irrigated		
	Large (ha)	Medium (ha)	Small (ha)
Annual Crops	127	93	71
Fodder Crops	23	16	11
Total Farm	150	109	82

In Table 4.3 the irrigation cut-off points are shown for severe economic prejudice to occur in the Vaalhartz pilot study. The analysis was conducted for a farm where in the first place it was totally involved with annual crops, secondly for a farm totally involved with fodder crops and thirdly for a combination of this two crop categories.

Table 4.3: Irrigation application cut-off points for severe economic prejudice to occur (as a percentage of required optimum irrigation) - Vaalhartz

Crop	Area of farm irrigated		
	Large	Medium	Small
Only Annual Crops	19%	9%	0%
Only Fodder Crops	39%	30%	20%
Representative farm	22%	12%	0%

From Table 4.3 it is evident that there is a significant difference in irrigation application cut-off points for severe economic prejudice to occur between large and small farmers. It seems that the viability of small farms is of such a nature that very little irrigation can be withdrawn without severely impacting their viability.

Pilot Study C: Nkomati Region

In the Nkomati Pilot Study, the following crop breakdown has been used as well as the size of farm units per crop.

	Total Area	Area of farm irrigated		
		Large (ha)	Medium (ha)	Small (ha)
Orchards	12 900	62	43	24
Annual Crops	41 00	16	12	8
Sugar	32 850	140	109	78
TOTAL	49 850	218	164	110

In the above table the areas of farm irrigated according to size are shown. Interesting to note is that fodder and pastures are not significant in this area.

In Table 4.4 the irrigation cut-off points for severe economic prejudice to occur in the Nkomati Pilot Study are shown. Also in the case of this pilot study the analysis was done only for each crop category and then for the combined crop mix.

Table 4.4: Irrigation application cut-off points for severe economic prejudice to occur (as a percentage of required optimum irrigation)

Crop	Area of farm irrigated		
	Large Farms	Medium Farms	Small Farms
Only Orchards	82%	80%	76%
Only Annual crops	53%	42%	40%
Only Sugar	50%	46%	37%
Representative farm	67%	64%	57%

In the Nkomati Pilot Study, the vulnerability of the Small Farmers in regard to the irrigation application cut-off points for severe economic prejudice is also evident.

Although two pilot studies were conducted on two different areas, to make the project more effective for policy making purposes, it is necessary that the project be extended and that the model be used to calculate severe economic prejudice at a Water Management Area (WMA) level. The advantage of conducting a study for the WMAs simultaneously is that the methods and data systems will be used in a coherent and uniform manner. This will ensure that the results will be compared on a parallel basis, on a WMA level. The resultant benefit will also be product innovation that will have value in the sense that the model will be used by policy makers across a wide spectrum.

5. CALCULATION OF COMPENSATION

The amount of compensation should be determined as set out in the Constitution. The amount must therefore be just and equitable, reflecting an equitable balance between the public interest and the interests of those affected, having regard to all relevant circumstances, including-

- the current use of the property;
- the history of the acquisition and use of the property;
- the market value of the property;

- the extent of direct state investment and subsidy in the acquisition and beneficial capital improvement of the property; and
- the purpose of the expropriation.

This formula was considered by the Land Claims Court from the perspective of the value of land. It is submitted that this approach should also be applied to determine the compensation payable when an entitlement to water is reduced or taken away. The compensation should therefore be determined in two stages. First, the market value of the entitlement concerned has to be determined on a factual basis guided by certain principles used in such determinations, as well as comparable sales. Second, the Court has to consider whether the market value as determined should be adjusted in light of the other factors listed in the Constitution.

Therefore, compensation less than market value or conceivably more than market value could under certain circumstances be just and equitable and therefore constitutional. A balance should therefore be struck between the “public interest” and the “interests of those affected” by the expropriation when calculating the amount of expropriation taking into account the relevant factors. Of these factors, only the market value and the extent of State investment and subsidy are objectively quantifiable.

As far as the other factors than market value are concerned, there is no precise method for calculating the values that are based on considerations of equity and justice or of weighing the various factors against each other so that the facts and circumstances of each case will determine the method and final compensation.

6. WHO SHOULD PAY COMPENSATION

The general principle regarding who should pay the compensation is that the organisation responsible for the curtailment should pay the compensation. In the case of a curtailment due to the implementing of the Compulsory Licensing process, it should therefore be the responsible authority. If so, then it will be the Department of Water Affairs and Forestry, except if the power has been delegated or assigned to a specific catchment management agency. However, the person or organisation that benefits from the curtailment concerned should provide the necessary funds. This will probably be the case where urban development, large commercial farmers,

industries or mines are involved. Effect could be given to this by attaching conditions to the licenses involved.

If it is not clear who is benefiting from the curtailment or where the beneficiary is not in the position to pay, but the curtailment is to ensure equitable and efficient allocation of the water, then the water users in the catchment could provide the necessary funds. Effect could be given to this by setting water use charges to be paid by the water users concerned. However, if sufficient funds could not be raised by these charges or it could be too burdensome on the water users, then the role-players with an interest in the matter should provide the necessary funds. These role-players could include the following, depending on their interest-

- Treasury;
- Department of Water Affairs and Forestry;
- the responsible authority involved;
- National and Provincial Departments of Agriculture;
- National and Provincial Departments of Housing;
- National and Provincial Departments of Environmental Affairs;
- Department of Provincial and Local Government;
- Provincial Departments of Local Government;
- Non Governmental and Community Based Organisations;
- financing institutions; and
- Interest groups.

Further, in the case where it is not clear who is benefiting from the curtailment or in the case where the beneficiary is not in a position to pay, and the curtailment is not to ensure equitable and efficient allocation of water, then the role-players with an interest in the matter should provide the necessary funds.

If sufficient funds could not be obtained from the relevant role-players or from water use charges, then the funds should be provided by parliament.

It could be assumed that, if the responsible authority follows a pro-active approach to water allocation reform, then the responsible authority would provide most of the funds for the compensation through Treasury, while the remainder will come from the other role-players with an interest in the matter. On the other hand, if a re-active

approach is followed, then most of the funds will be made available by the role-players with an interest in the matter.

7. RECOMMENDED PROCESS FOR RE-ALLOCATION OF WATER

In order to reconcile water requirements with availability of water in water stressed catchments and to achieve the objectives of the Constitution, namely equitable access to water resources and sustainable development, the following process is proposed in order to minimise payment of compensation:

- Address unlawful use of water
- Remove alien vegetation
- Enforce water management plans to minimise losses and inefficient use
- Promote conjunctive use.

All of the above are aimed at maximising the use of the available resource. If this still does not provide for a positive water balance, then the following steps should be taken:

- Provide for the Reserve and possible international obligations by curtailing all existing lawful water use equitably.
- Check that this does not result in severe economic prejudice and adjust reductions where necessary.

If this still does not result in a positive water balance, then re-allocation of water should be considered:

- Find a willing seller and a willing buyer, buyer to cover the cost.
- As a last resort expropriation can be used, where the quantum is based on market values.

8. DISCUSSION AND RECOMMENDATION

It is clear that the determination of when “severe economic prejudice to the economic viability of an undertaking” occurs is central to the question of whether or not compensation has to be paid when an existing lawful water use is curtailed during the Compulsory Licencing process. This concept therefore needs to be defined more comprehensively than was possible in this study.

Aspects that need to be clarified are the various benchmarks that were used in this study, namely cost-of-living, SAPWAT, yield on capital and crop budgets. It is not

necessary to determine the numeric value of the benchmarks, but what they should be based on, as this will vary across the country.

The model at present assumes that the cost-of-living is the same, irrespective of the type of crop that is grown or the size of the undertaking. Some forms of irrigation farming, especially with respect to high value crops such as soft fruit for the export market, require highly skilled farmers. For these people the cost-of-living should be set higher in order to reflect the higher responsibility.

It is recommended that the model is refined with respect to the benchmarks that are used, and that it is then used to calculate indicative cut-off limits for curtailments in existing lawful use that will just not result in severe economic prejudice. The results of this can be used for planning purposes as a first order indication of how much water can be made available without exposing the Department to an unacceptable risk of having to pay undue amounts of compensation.

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