

Northern Victoria Irrigation Renewal Project  
Water Change Management Framework Version 2



Advice from the  
NVIRP Expert Review Panel  
to the  
Minister for Water

31<sup>st</sup> May 2010

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## 1. INTRODUCTION

### 1.1 This Advice

This advice relates to the amended Water Change Management Framework, henceforth referred to as the WCMF Version 2, which is to supersede the original WCMF approved by the Minister for Water on 18<sup>th</sup> August 2009. This advice focuses on the amendments in the WCMF Version 2 and complements the previous advice of the Expert Review Panel (ERP) on the original WCMF submitted to the Minister for Water on 11<sup>th</sup> August 2009.

Three substantive amendments in the WCMF Version 2 address matters identified in the previous ERP advice of 11<sup>th</sup> August 2009 and comprise:

- further guidance on the development of Environmental Watering Plans (EWPs) both in Section 15.2.1 and in Attachment E;
- the inclusion of a procedure for localised groundwater impact assessment in Section 17.2.3; and
- the inclusion of an interim mitigation water assessment method, in a new Attachment G.

Amendments have also been made in response to the conditions in the Federal Environment Protection Minister's decision to approve the Northern Victoria Irrigation Renewal Project (NVIRP).

The amendments have considered feedback from the users of the WCMF, the relevant Catchment Management Authorities in particular and from other involved stakeholders. Some minor editorial modifications have also been made.

### 1.2 Criteria used by the Expert Review Panel

The criteria used by the ERP to review and provide its advice on the revisions to the WCMF are consistent with directions given in the decision of the Minister for Planning on 20th April 2009 that no Environmental Effects Statement is required for NVIRP and with the Terms of Reference for the ERP.

The ERP considered the amendments in light of the purpose of the WCMF, the clarity with which they can be interpreted, and the adequacy of their application in practice.

## 2. CONSIDERATION OF AMENDMENTS

### 2.1 Guidance on preparation of EWPs

In the advice provided to the Minister for Water on 11<sup>th</sup> August 2009 the ERP identified the need for the minimum content guidance for EWPs to be updated and suggested that consideration be given instead to the development of a standardised template for EWP development. The ERP suggested that the guidance could be updated such that:

- sequencing reflects what had been undertaken (process and structure) by the North Central Catchment Management Authority (NCCMA); and
- a means for maintaining an appropriate level of scientific rigour is outlined.

The amended guidance in the WCMF Version 2 for the development of EWP takes the form of additional guidance on background and context, water balance modelling, the assessment of the requirement for interim mitigation water, and the reorganisation of some sections to create more logical order. The additions make the scope of each EWP more comprehensive and place them into a broader context thereby providing a more solid basis for now and into the future.

The development of a standardised EWP template with generic sections resulted in increased consistency among the EWPs. The addition of a structured executive summary is a significant improvement which will be helpful to the general reader.

The WCMF Version 2 addresses the question of scientific rigour by providing guidance on using a water balance modelling approach and by requiring an expanded reference section. In following the improved guidance, most of the wetland EWPs have benefitted from the additional lead time available by undertaking field assessments and vegetation mapping, thereby extending the knowledge base beyond a desktop study and also bringing the knowledge up to date. The extra lead time in 2009-2010 in preparing these EWPs has been valuable in both allowing a field appraisal and in allowing the findings to be part of the consultation and to feed into the objectives. This is indicative of appropriate sequencing and is consistent with the guidance inherent in the WCMF Version 2.

Overall, the ERP considers that the expanded guidance, along with the collective development of generic EWP sections and the longer lead time in 2009-2010 compared with the lead time in mid-2009 have had a beneficial effect on the scope and quality of the EWP development process. The guidance in the WCMF Version 2 has resulted in the development of an excellent template for EWPs with applications wider than for NVIRP. The guidance shortcomings in the Water Change Management Framework raised as part of the previous ERP advice have been addressed.

The ERP is of the view that the WCMF Version 2 and in particular Attachment E, provides good guidance for the development of EWPs.

## 2.2 Procedure for localised groundwater impact assessment

In the advice provided to the Minister for Water on 11 August 2009 the ERP highlighted the difficulty in establishing ecological risks for groundwater dependent ecosystems and seepage dependent ecosystems. The ERP advised that further consideration be given to this issue and suggested that an appropriate process or method be developed to assess groundwater dependent or seepage dependent ecosystems.

The localised groundwater impact assessment procedure which is outlined in Section 17.2.3 of the WCMF Version 2 meets the identified need. The purpose of the procedure is to identify whether a reduction in channel recharge groundwater will, or is likely to, significantly alter the water balance of a wetland or a waterway and therefore potentially affect high environmental values. The procedure is to be used to determine whether or not an EWP is needed.

The groundwater modelling undertaken by NVIRP to support its Public Environment Report (PER) submission explored the complexities of channel recharge groundwater. The procedure distils this complexity into a simple look-up table making the assessment procedure objective, repeatable and easy to apply. The procedure is written clearly, is relatively easy to implement and has proven to be a useful tool in identifying where hydrologic connection from channel seepage groundwater may be affected and the likely magnitude of potential impacts.

## 2.3 Interim mitigation water assessment method

In the advice provided to the Minister for Water on 11th August 2009 the ERP identified the need for a method to define mitigation water as a priority. The inclusion of an interim mitigation water assessment method in a new Attachment G of the WCMF Version 2 addresses this need.

The purpose of the interim mitigation water assessment method is to guide the assessment of the requirement for interim mitigation water and where required to calculate the mitigation water commitment (a percentage). This is subsequently used to calculate interim mitigation water as part of the annual process of calculating and allocating water savings from NVIRP implementation. The method is complementary to the Water Savings Protocol and associated Technical Manual.

The development of this method has been quite challenging because it needs to be relevant for all types of hydrological connections and associated incidental irrigation water in a broad range of circumstances. In addition, it must consider the dependency of high environmental values on incidental water in the identified baseline year and into the future, as expressed in the desired water or flow regime. By necessity the method includes steps which involve a series of analyses that support a reasoned judgement as to whether mitigation water is required, based on the dependency of high environmental values on incidental irrigation water.

The ERP is of the view that the method has a sound technical basis and provides appropriate guidance in linking the dependence on incidental water to high environmental values and in disclosing the assumptions and rationale on which various analyses can be made to support an informed judgement about the requirement for interim mitigation water. The method has proved to be adequately flexible in application to the broad spectrum of circumstances encountered in both waterway and wetland EWPs and has proved to be robust even where difficult judgements have had to be made. The adaptive management approach inherent in the WCMF Version 2 is an important aspect which supports the interim mitigation water assessment method and provides the opportunity for application of the method to be reviewed where the circumstances may warrant such a review.

## 2.4 Amendments in response to Federal Environment Protection Minister's approval conditions

On 10th May 2010 the Federal Environment Protection Minister approved the NVIRP subject to a number of conditions. These conditions require that the Commonwealth Minister for Environment Protection must approve the WCMF and each waterway and wetland EWP before operation of relevant NVIRP modernisation works commence. These conditions are presented in Section 15.5 and appropriate amendments have been made to Table 12 - *Review and approval of environmental documentation* in the WCMF Version 2.

The ERP is of the view that the amendments are effective in ensuring that the Water Change Management Framework, and waterway and wetland EWPs are subject to both the State and Commonwealth approval processes.

## 2.5 An ERP perspective on the Framework

The iterative approach to refining the Water Change Management Framework in the light of experience gained in developing the EWPs has resulted in a framework that provides guidance under a wide range of contingencies and is well placed to produce robust outcomes under all conceivable circumstances.

The Water Change Management Framework must continue to evolve if it is to be responsive to changing circumstances and to maintain its relevance. The amendments in the WCMF Version 2 are testament to this. The ERP expects that more changes may be required in the future and regards this as positive as it is an example of adaptive management in practice.

The ERP understands that, apart from any need which arises from the adaptive management approach inherent within the WCMF Version 2, only three more documents are yet to be developed and referred to the ERP for advice. The three documents, as set out in Figure 8 of the WCMF Version 2, are the *Regional Environmental Assessment Report*, the *Groundwater Assessment Report* and the *Murray Goulburn Environmental Assessment Report*. It is anticipated that advice on these will be submitted to the Secretary for the Department of Sustainability and Environment (DSE) before the indicative time requirements outlined in the WCMF Version 2.

### 3. CONCLUDING ADVICE

On the 11th of August 2009, the ERP advised that it considered the WCMF and associated documents an “excellent first step” in ensuring that the NVIRP remains environmentally benign. The amendments in the WCMF Version 2 have strengthened the framework and in particular the guidance it provides for the development of waterway and wetland EWPs.

The ERP believes that the WCMF Version 2 and in particular its improved guidance in relation to the development of EWPs is appropriate to help meet the requirement to protect aquatic and riparian values through management of water allocations and flows within the modified GMID system as specified by the Minister for Planning (referral 2009-01).

It is the advice of the ERP that the WCMF Version 2 incorporates several strengthening amendments which are necessary and sound and warrant the WCMF Version 2 being approved.

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