

**Northern Victoria Irrigation Renewal Project**  
**Operation Impact Assessment on**  
**Aquatic Fauna, Terrestrial Vertebrate Fauna, Flora and Ecological**  
**Communities**



Advice from the  
NVIRP Expert Review Panel  
to the  
Secretary of the Department of Sustainability &  
Environment

**8 January 2010**

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## 1. INTRODUCTION

### 1.1 This Advice

This advice is in relation to three ecological reports which collectively aim to determine whether the changes in surface water and groundwater likely to result from the future operation of the Northern Victoria Irrigation Renewal Project (NVIRP) modernisation will have a significant ecological impact on listed threatened species (including migratory species) and communities. These three reports (Technical Report #3, #4 and #5) are collectively referred to as the “ecological reports” or a simpler abbreviation of this term.

### 1.2 Context

A delegate of the Minister for the Environment, Heritage and the Arts determined on 6 November 2009 that the proposed NVIRP action referred to the Federal Government under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is to be considered a Controlled Action. The proposed NVIRP action is “the modified operation of the fully modernised Goulburn Murray Irrigation District”. Accordingly, the Department of Environment, Water, Heritage and the Arts (DEWHA) advised NVIRP that it is to prepare a Public Environment Report (PER) that will determine the likely impact on Matters of National Environmental Significance (MNES) that are protected under Part 3 of the EPBC Act, including:

- wetlands of international importance;
- listed threatened species and communities; and
- listed migratory species.

Six technical reports have been commissioned by NVIRP as part of preparing the PER, and these are:

- Technical Report #1: Sinclair Knight Merz (2009a). *Northern Victoria Irrigation Renewal Project: Assessment of Hydrological Changes from the operation of the NVIRP modernised GMID - Surface Water Hydrology*, Sinclair Knight Merz report (Final Version) prepared for the Northern Victoria Irrigation Renewal Project, Shepparton
- Technical Report #2: Sinclair Knight Merz (2009b). *Northern Victoria Irrigation Renewal Project: Assessment of Hydrological Changes from the operation of the NVIRP modernised GMID - Groundwater Hydrology*, Sinclair Knight Merz report (Final Version) prepared for the Northern Victoria Irrigation Renewal Project, Shepparton
- Technical Report #3: King, A.J. and Tonkin, Z. (2009). *Northern Victoria Irrigation Renewal Project: Operational impact assessment on aquatic fauna*. Unpublished client report. Arthur Rylah Institute for Environmental Research. Department of Sustainability and Environment, Heidelberg
- Technical Report #4: Brett Lane & Associates (2009). *Northern Victoria Irrigation Renewal Project: Operational Impact Assessment on Terrestrial Vertebrate Fauna*, Brett Lane & Associates report 9056.2(2.8) prepared for Northern Victoria Irrigation Renewal Project, Shepparton
- Technical Report #5: Ecological Associates (2009). *Northern Victoria Irrigation Renewal Project: Assessment of Impacts on Flora Issues of National Environmental Significance*, Ecological Associates report EI001-3-D prepared for Northern Victoria Irrigation Renewal Project, Shepparton

- Technical Report #6: Hale, J. (2009). *Northern Victoria Irrigation Renewal Project: Operation Impact Assessment on Wetlands of International Importance (Ramsar Wetlands)*, Report prepared for Northern Victoria Irrigation Renewal Project, Shepparton, Jennifer Hale, Kinglake.

### **1.3 Role of Expert Review Panel**

An Expert Review Panel (ERP) was appointed by the NVIRP and endorsed by the Minister for Environment and Climate Change (Victoria). The role of the ERP is to provide advice to NVIRP, the Minister for Water, and the Secretary, Department of Sustainability and Environment (DSE) in relation to the decision by the Minister for Planning (Victoria) that an Environment Effects Statement (EES) is not required for the NVIRP. The relevant condition of the Minister's decision is Condition 2, which determined that:

*“NVIRP must appoint an Expert Review Panel, the membership and terms of reference of which are to be endorsed by the Minister for Environment and Climate Change, to provide advice on hydrological and related ecological changes due to the implementation of NVIRP”.*

The ERP was established in late June 2009 and has met as required since the beginning of July 2009 to review the matters set out in the conditions specified by the Minister for Planning (Victoria).

### **1.4 Purpose of the Ecological Reports**

These three reports collectively consider whether the hydrological changes expected to result from operational changes of NVIRP are likely to have a significant impact on the MNES, meaning listed species and ecological communities, and listed migratory waders. The ecology reports thus build on the work done and described in the two hydrological reports, as shown in **Figure 1**. Potential impacts are assessed by considering the likely hydrological changes and their implications against the Significant Impact Criteria set out in the EPBC Act Policy Statement 1.1 Significant Impact Guidelines. Habitats which may possibly require mitigation measures to avoid or reduce impacts are also identified.

### **1.5 Process for Expert Review Panel Review**

The ERP's advice is based on the version of these ecological reports received prior to the date of this advice. This advice is submitted to the Secretary of the Department of Sustainability and Environment (DSE) on the understanding that editorial changes may be made to the ecological reports on full review by NVIRP and the DSE, and prior to submission of the PER to DEWHA.

NVIRP and the DSE formed a Steering Committee to define the scope and direct the consultants engaged to undertake the ecological technical reports. The ERP received early versions of each of these reports, and a presentation on each report in mid December 2009. Since then there has been further iterations of the reports incorporating refinements based on feedback from agencies and stakeholders, including from the ERP.

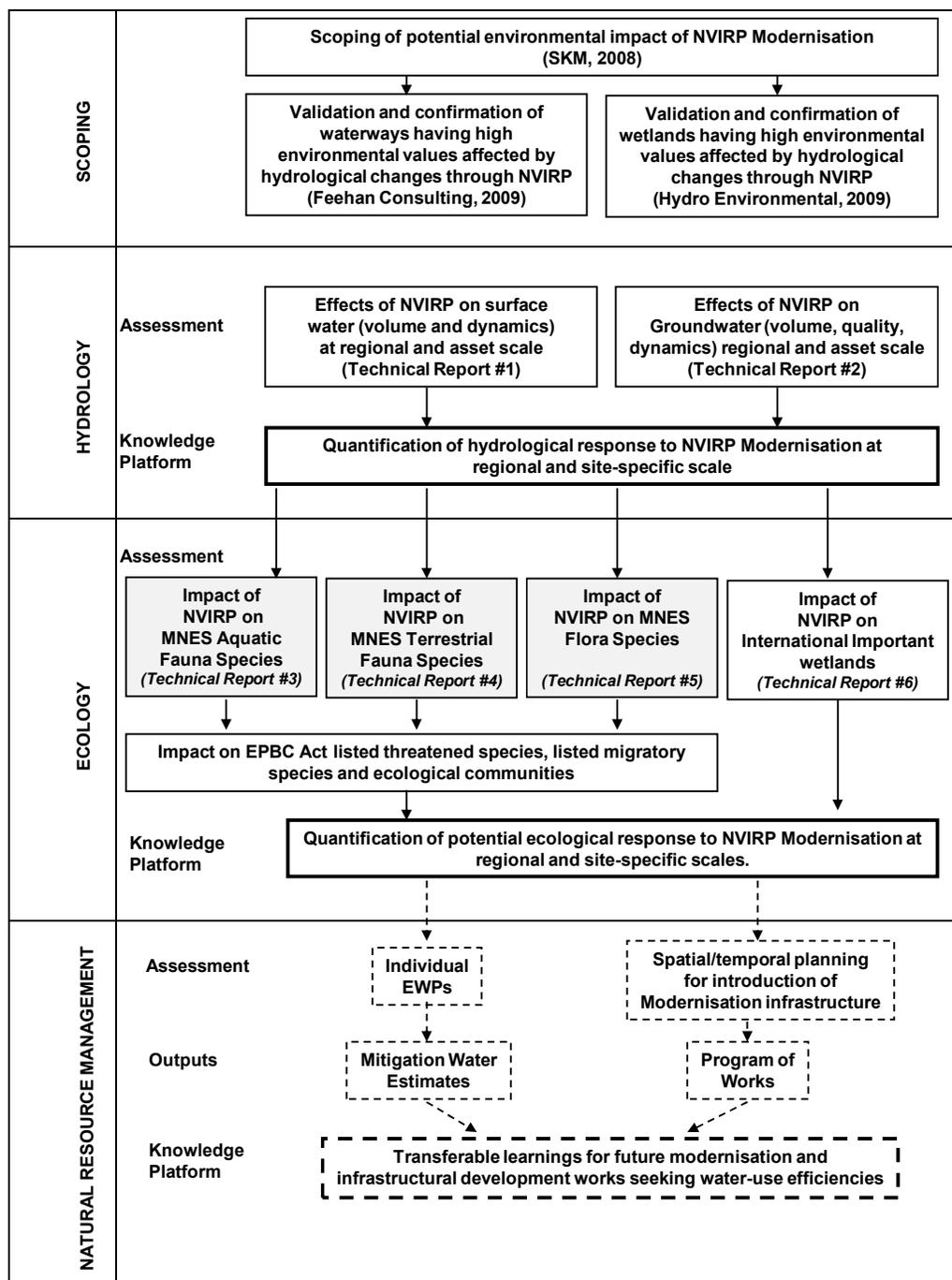
### **1.6 Criteria Used by the Expert Review Panel**

The ERP established several criteria to guide its review of six technical reports and to structure its advice to the Secretary of the DSE. These criteria are based on the EPBC Act Significant Impact Criteria, and on the directions given in the decision by the Minister for Planning (Victoria) that no EES is required for NVIRP. The criteria were developed with an awareness of the PER Guidelines provided to NVIRP by DEWHA on 24 December 2009.

These criteria are as follows:

- (i) Comprehensiveness of the Reports
- (ii) Adequacy of the Technical Methods
- (iii) Effectiveness of the Process
- (iv) Suitability for Purpose

Figure 1: Assessment Purposes and Knowledge Platforms of PER Supporting Documentation



## 2. REVIEW OF THE ECOLOGICAL REPORTS

### 2.1 Comprehensiveness of the Reports

Collectively the three ecological reports cover all the MNES identified by the DEWHA EPBC Act Search tool within the Goulburn Murray Irrigation District (GMID) and its immediate surrounds. However, because the consultants interrogated other databases from Victoria and accessed other types of sources, the number of MNES considered in the evaluations was augmented and refined beyond those identified in the EPBC Search tool. The ERP believes that the list of MNES considered here is as comprehensive as could be achieved, and is also up to date.

For the purposes of this evaluation, the list of MNES was divided into three, corresponding to major ecological taxa and different areas of ecological expertise. The ERP considers this devolution is sensible and notes that matching expertise to assessments has been essential for completing the search and evaluations needed within a very tight timeframe.

The evaluations focused on the GMID with a 40 km buffer around it, and certain floodplain systems beyond the GMID. The ERP considers the use of a buffer to be a sensible expression of the precautionary principle, and that the area being assessed covers the anticipated zone of NVIRP's influence.

All three reports used a habitat-based approach, with habitats linked to individual species and species groups. The combined effect is that a considerable diversity of habitats was considered. The ERP notes that this has given extensive landscape-scale coverage and has resulted in a spatially-comprehensive assessment of the potential effects of the operation of NVIRP modernisation.

### 2.2 Adequacy of the Technical Methods

The approach used is a largely uncritical application of legislative rules and processes against current scientific knowledge of the target biota occurring in the zone of influence. Such an approach is prescribed by the overall purpose. It therefore must be considered adequate, despite the intrinsic shortcomings of using databases based on presence data as a description of species distributions and habitat usage. Placing MNES in regional and national context is helpful.

Potential threats to MNES have been addressed by considering the scale and nature of the hydrological changes expected from operation of the NVIRP modernisation in the absence of appropriate mitigating action on the part of NVIRP. The ERP considers this approach to be effective, given the number of species to be considered and the state of knowledge for individual biota, particularly the flora and the birds. A habitat-based approach is common in flow restoration projects undertaken elsewhere in the Murray Darling Basin.

In each of the three reports, the EPBC Act criteria have been applied and found to be not significant. The ERP notes however that the criteria have been varied and a word change introduced in one report, with the result that the criteria applied do not conform perfectly with the criteria specified in the Significant Impact Criteria Guidelines. However, in this instance, the ERP believes that this variation does not affect the outcome or the soundness of the overall findings because of the scale of hydrological change being considered.

### 2.3 Effectiveness of the Process

The three reports create a knowledge platform for management (**Figure 1**) in that they provide the basis for deciding where mitigation water may be required and influence where channel remediation works may or may not be undertaken.

Although completed in parallel, the three reports were broadly based on a similar approach. Pressures of time prevented closer coordination between the reports and inhibited iterations, cross referencing and interpretation which otherwise may have better facilitated integration of the reports within the PER documentation.

## **2.4 Suitability for Purpose**

The ERP is of the view that the ecological reports provide an adequate evaluation of the significance of the impacts on listed threatened species, listed migratory species and ecological communities resulting from hydrological change due to the operation of the NVIRP modernised GMID. It is satisfied that the reports are suitable to be appended to the PER.

## **3. CONCLUDING ADVICE**

Collectively the three ecological reports have analysed and evaluated the Federally-listed species and community occurrences in light of the likely hydrological changes and each has made a determination based on the relevant EPBC Act Significant Impact Criteria. These determinations represent an evaluation of potential threats posed by the operation of NVIRP modernisation with regard to EPBC Act Significant Impact Criteria. The ERP considers these determinations and their conclusions to be adequate for that purpose.

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