HAMILTON FIELD NATURALISTS CLUB

PO Box 591, Hamilton, Victoria, 3300
hamiltonfnc@live.com.au

To:

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Department of Sustainability & Environment
Attn: Sustainable Water Strategies branch
PO Box 500 East Melbourne Vic 3002

Re. Draft Western Region Sustainable Water Strategy

We were very impressed with many parts of this report, particularly those relating to climate and groundwater issues. However, we were less impressed with some other aspects, discussed below.

Philosophy
The Draft suggests that the status quo should be retained in most aspects of water management. That would be a horrendous mistake in specific cases – thus, past anthropocentric policies over-allocated water for agriculture and other uses, with no consideration for the environment. We DO NOT SUPPORT that policy. Water to maintain biodiversity in rivers, streams, wetlands and aquifers is critical. If that is not recognised then there is no hope for a sustainable future for these environmental assets in a climate that is certain to be drier, and when many of these assets have already been seriously degraded.

As one consequence of our above statement, we DO NOT SUPPORT automatic conversion of "sleeper licences" to entitlement, or the treatment of "Section 51 licences" as entitlements (Chapter 4, section 4.2).

Wetlands
Our submission concentrates mainly on wetlands – a much-abused and neglected environmental asset. The environmental emphasis in the Draft appears to be centred on groundwater management and river and stream health. Certainly, environmental flows and river/estuary health invites remedial action but we think is not as critically important as tackling the problem of wetland degradation and loss.

Since settlement, we have lost over 60% of wetlands in the GHCMA region to drainage (111,000 ha lost). On the Volcanic Plains over 75% of the Freshwater Marshes have been lost (on 1994 figures which are now outdated) and 90% of the remaining depleted wetlands are on private land that is subject to further drainage, loss from climate change and change in land use (e.g. adjacent raised-bed cropping and plantations). The dismal projections of future loss are acknowledged in the Draft Water Strategy.

Our reading of the Draft suggests that DSE has been very timid in proposing any real remedies for a resolution to the problem of past and projected future wetland loss, despite the acknowledgment in the Draft that the current deplorable situation will get worse, whether or not climate change is a factor. The closest the Draft got to addressing the issue was on p. 206 – "*The Department of Sustainability and Environment will work with catchment management authorities to identify opportunities to protect high value wetlands at risk from rural drainage. For some lakes of high environment value, there may be opportunities to modify drainage schemes to improve water regimes or mitigate the impacts of climate change*". This is dreadfully meek. And why only the present high-value wetlands? (some large, drained wetlands with good stream flows could be restored and would then be high-value wetlands). Why not be forthright and say that some drainage schemes will have to be changed if we are to retain functional wetlands and biodiversity?

On p. 206 it is further stated "… *there may be insufficient flows to maintain the ecological character of a number of important wetlands, including the Ramsar listed Western District Lakes*" (on p. 7 it is stated that "*over the past 13 years streamflows have been up to 90% less than long-term averages in some parts of the region"*). The Draft should have provided some OPTIONS to address this issue. The best option, suggested above, is to seek alternative drained wetlands that are fed by more reliable streams and to remove the drainage structure from those wetlands.

If we are to make any progress in restoring our wetlands we have to consider the restoration of some key, large wetlands. Lake Condah has been a good start, but it is only 250 ha in extent. We need to consider wetlands from 500-3000 ha in extent - large enough to hold water for more than 1-2 years following good rainfall, variable in depth across the wetland to provide for different plant and fauna species, and large enough to enable waterbirds to breed successfully (i.e. to avoid predation from foxes). Wetlands of a few hectares cannot do that, although they may provide feeding opportunities for various waterbird species.

The restoration of wetlands will involve installation of weirs and control of drainage. It will involve purchase – and that will be expensive. However, the latter option will, in the long term, be more effective and inexpensive that playing about with a host of tiny wetlands whose future is increasingly problematic.

With the current spate of wind-powered electricity generators mooted for SW Victoria (currently around 1000) there will be a continued loss of the endangered Brolga due to collisions when flocks move from feeding and resting grounds. To offset these certain losses, investment by restoring large wetlands is going to be required if we are to maintain a population through increased breeding success. As important are other migratory species that rely on our wetlands for feeding in the summer-autumn, and local waterbirds that depend upon wetlands for breeding opportunities in winter-spring.

Wetland statistics

The first major problem with the Draft is in the statistics supplied for wetland extent (see p. 40 and p. 102 and Appendix 3 of the Draft). It is stated that by 1994 there was a loss of only 22% (72,000 ha) of wetland area since European settlement in 1788. As we note below, there is a huge discrepancy between these statistics and those provided by DSE and CMAs in earlier publications.

Consider the GHCMA Regional Wetlands Status Report 2006 (GHCMA is only one of 5 regions covered by the draft – the other areas are Mallee, Wimmera, part of North Central & part of Corangamite). This report was based on that of Dixon (2002) *Evaluation of the status and category of wetlands in the Glenelg-Hopkins region* (DSE). We believe Dixon based his analysis on evidence provided by DSE's 1994 dataset. The GHCMA document states that the loss of wetlands in the GHCMA area was 111,000 ha (the original wetland area was estimated to be 184,188 ha), i.e. a decline of 60% by area. Yet the Draft Strategy gives the loss of wetlands from the entire Western Region as only 72,116 ha (20% of the 1788 value). That value of loss is 38,884 ha less than in the GHCMA region alone. We note that DSE states in *Wetlands, Biodiversity and Salt* (2004) that "about 37% of the [Victoria's] wetland area [now 635,000 ha] has been lost, mainly due to drainage".

We note that SKM examined the situation in the Wimmera for the Wimmera Catchment Management Authority. Their report was *Wetland Extent and Drainage Line Mapping Project* (2006). SKM used a digital elevation model (DEM), involving the DSE Wetlands 1994 shapefile, Airborne Laser Survey 2004, Digital Aerial Photography 2004 and VicMap 1:25,000 Water Bodoes dataset. They were able to identify many more wetlands than identified in 1994 (and thus also used for the 1788 data). However, SKM correctly did not include these 'new' wetlands when calculating changes in wetlands since 1788. Was that approach not taken in the recent analysis for the Draft? Or does the Draft simply indicate that if the original outline of the wetland is still there then it is counted as a functioning wetland? If so, does that ignore the fact that drainage has occurred (in which case deep freshwater marsh would have been converted to freshwater meadow, or perhaps shallow freshwater marsh if the drainage was imperfect)? If this tactic was used then the full statistics of wetland categories would/should show it.

Whatever the reason, the Draft should state why there is a discrepancy of such a serious magnitude between it and the earlier DSE estimates, or revise the estimates. This is not a trivial matter; it affects the credibility of the whole document. Worse still, most readers would presume that the loss of wetland area is not significant and that urgent action is not required. That is not so – this matter must be rectified.

Proposed Wetland Actions

On p. 103 there is the statement "*There are few options for increasing water available for lakes and wetlands in the Western Region*". We are extremely disappointed at the failure of this report to actually address the issue in a positive manner. Real options should be proposed for discussion and action.

Whilst one stated objective to offset the continuing loss of wetlands is "*Increasing the amount of water for the environment*" (p. 99) there is no mention of the option to restore drained wetlands. The nearest the Draft could manage was an oblique reference (p. 168) to "*improved management of drains*". There is no mention of the very effective and practical OPTION of purchasing major drained wetlands and blocking the drains. That is a major policy omission.

Large drained areas need to be considered for purchase, to offset the loss of biodiversity that has happened and will continue to happen (as acknowledged in the Draft). These restored wetlands need to be large, in order to provide a buffer against runs of dry years, and to provide a variety of wetland habitat and large area of water as protection against predators (Brolga will nest in/near small wetlands but the offspring mostly do not survive unless predators are controlled). Small natural wetlands are usually shallow and ephemeral; they offer little or no value for waterbird breeding, although they do provide some feeding opportunities.

Even with the Lake Corangamite issue, there is no analysis of the option of closing down the damaging drainage structure. How can it be that this magnificent lake, once the largest body of permanent water in Australia and a Ramsar Wetland of international significance, was allowed to be degraded by diverting 90% of its water, all for the sake of reducing natural flooding on 1700 ha of land in some years? And why the failure now to promote an effective and urgent return to the former condition of the lake (the full capacity, not just the 50% that was suggested as a compromise).

Modelling showed it unlikely that floods would create much or any future problem. If there were floods then there are 2 ways not canvassed in the Draft to overcome the problem:

1. Buy out the affected owners (the amount of private land is very small compared with the area and value of the lake) or
2. Accept the slight risk of a flood and, if it happens, pay compensation for any lost production – this would always be cheaper than maintaining a perpetual drainage infrastructure (the annual maintenance cost is reported to be around $200,000).

Rural Drainage

It has been suggested elsewhere that a real barrier to action in closing or modifying drains is that there is no effective, responsible management. Control of the Drainage Schemes is given to the Shires, under the Local Government Act, and they collect any landholder rates for the schemes. The Shires have no real expertise in the drainage issues, or interest in better management of water for environmental purposes. It is also suggested that many drainage schemes are in recess; many farmers object to paying for drainage that is not required, and others question whether drainage has gone too far, some suggesting that weirs be installed to control the flows.

The CMAs should have the authority over rural drainage, under the Water Act. Until this situation is resolved it is unlikely that any effective action will be possible. One difficulty is the possible disinclination of Shires to collect the rates on behalf of the CMAs, although the Draft indicates that few rates are actually collected now (p.168).

Rights to Water (p. 71)

Clearly, there has been an over-allocation of water in the past, with no share allocated then to the environment. This is exemplified by the Glenelg River issue. Without the new Mallee pipeline there would be no water put down the Glenelg River from the Rocklands Dam. There must be a recognized allocation to the environment and that must not be compromised by diversion for "production" reasons associated with irrigation and other uses. And the environmental allocation need to be higher than at present (p. 243). The Glenleg River water has already been compromised by sending a major part north to the Mallee-Wimmera.

We DO NOT SUPPORT automatic conversion of "sleeper licences" to entitlement, or the treatment of Section 51 licences as entitlements (Chapter 4, section 4.2). Each application should be considered separately and only granted when it is clear that environmental entitlements are not affected then or in future.

We DO NOT SUPPORT the concept in Chapter 4 & 5 that existing entitlements should be maintained in full, or carryover of up to 30% of entitlement allowed, in groundwater areas where research has either shown that the aquifer is stressed , or where there are no research data. To commit to that policy for all groundwater areas seems to be a foolish proposition. Research must be undertaken first to establish what the appropriate degree of water extraction might be.

Increased water interception from land uses and vegetation (p. 151)
The likely increase in planting of shelterbelts and other environmental plantings will only be minor, compared with plantations. Unlike commercial plantations, we do not believe that these should be included in any arrangement to charge for projected water use. Most of the planting are in relatively narrow belts along fences and streams.

These environmental plantings confer benefits to biodiversity and amelioration of local climate. As suggested in the Draft, they also use much less water than a plantation, particularly Bluegums that are in a high water-use phase for most of their life (12-15 years).

There is a dearth of information in the Draft on comparative water use by various classes of vegetation, including forestry plantations. That is surprising, since there has been a CRC for Catchment Hydrology running since at least 1997 and many publications have been released, including those by Dr Rob Vertessy (in CATCHWOOD Newsletters of the CRC and in referred journals). Extensive work on differing vegetation types has also been done by research scientists in other programs. This chapter would be much more useful to planners (such as the CMAs) if the information that is available is used (the only reference cited was by Benyon *et al*. and that is concerned mainly with plantations).

Fire effects on water yield
At present in the far west of Victoria little (if any) consideration given to the impact of fire on water availability in the years following major fire events. For example, the Grampians fire of 2006 was a high intensity fire and burned half of the Grampians and half of the catchment of Rocklands Reservoir. The proposed "landscape mosaic burn" program will affect most of the remaining Rocklands catchment. The implications for water availability for Rocklands do not appear to have been assessed. Research elsewhere has shown that less water available for runoff in rejuvenating forests than in mature forest. Other effects, such as on refuge habitat, are also important since one must maintain a critical area for the survival of populations after fire and during severe drought conditions.

Fire should be included in the discussion and assessment process and its impacts on water availability. We think this is as important as the consideration of the impact of plantation development on water use.

Stygofauna
It is our understanding that little or no baseline data collection on stygofauna has been undertaken in Victorian aquifers, particularly when compared with other states in Australia (Humphreys 2006 'Groundwater Fauna' paper for the 2006 Australian State of the Environment Committee, Department of Environment and Heritage, Canberra). South Australia's Flinders University is currently undertaking extensive surveys of stygofauna, collecting baseline data and, in places, finding species new to science. Many of the aquifers with stygofauna extend across the border into Victoria.

We did not find any indication in the Western SWS that any baseline data collection will occur. We cannot protect a species or undertake mitigation measures if we have no data. The collection of baseline data for stygofauna, the 100% groundwater-dependant ecosystem, should be undertaken as it is critical information to help understand and manage the system. Surveys for stygofauna should be included in all new extraction proposals and should also be immediately undertaken in the new Anglesea Bore field which now has huge water extractions.

PR Bird PhD, OAM
Secretary,
Hamilton Field Naturalists Club