Tasmanian Conservation Trust - Submission on the Draft Tomahawk River Catchment Water Management Plan

19 March 2011

General comments

The Tasmanian Conservation Trust (TCT) is extremely disappointed with the Department of Primary Industries, Parks, Water and the Environment's (DPIPWE) Draft Tomahawk River Catchment Water Management Plan (the Draft Plan). The Draft Plan contains all the same flaws and weaknesses of previous plans TCT has commented upon, ie:

1. South Esk River Catchment Water Management Plan 2009.
2. Sassafras Wesley Vale Catchment Water Management Plan 2010.
3. The Boobyalla River Catchment Water Management Plan 2011.

It is of concern that the Water and Marine Resources Division within the Department of Primary Industries, Parks, Water and Environment remains unable, or unwilling, to undertake comprehensive river management plans, preferring to issue simple single-focussed volumetric-based plans.

Overall, the Draft Plan lacks scientific rigour. The reliance on data collected over 20 years ago for use in modelling exercises is a vague and inadequate effort to predict future flow volumes of the Tomahawk River and its tributaries. There appears to be a lack of data in the following important areas:

- Water quality.
- Physical and chemical properties.
- Biological properties.
- Environmental seasonal flow requirements.
- Riparian condition.
- Existing flow rates in the upper, mid and lower catchment, including all tributaries, especially those where water allocations are existing or potential.
- Actual locations of existing in-stream dams.

The Draft Plan is little more than a hypothetical desktop-based exercise to fulfil the State's requirements under the *Water Management Act 1999* and to address hypothetical future demands on the water resource within the catchment. It provides scant consideration to water quality issues and makes assumptions on flow rates that cannot be substantiated with such irrelevant data underpinning the modelling exercises.

TCT is disappointed that the DPIPWE is continuing to produce inadequate plans for such an important and critical resource. Many of the comments below have been highlighted in previous submissions to similar water management plans, some are specific to this plan.

1.4. Review of this plan

The TCT strongly disagrees with the recommendation that the Plan be reviewed after ten years. In consideration of the establishment of extraction meters, the need to incorporate information regarding climate change and the collection of data on flow rates and water quality properties the Plan should be reviewed much earlier.

- The TCT recommends the Plan is reviewed two years after its commencement.

1.7 Flow Measurement Reference Points

The use of data using the: "*The Department's stream flow gauging station* [which] *was operational between 1968 and 1990."* clearly illustrates the inadequacy and irrelevance of the data which has been used to underpin the assumptions made in the Draft Plan.

1.8 Water Management Provisions

The statement in the Draft Plan:

> *The water management provisions of this Plan (set out in Parts 3, 4 and 5) aim to provide a sound management system for the water resources of the Tomahawk River catchment, and a water regime that best meets the objectives of the Plan.*

The TCT considers that the Draft Plan's failure to address any criteria beyond the simple volumetric criterion renders it falling far short of being a 'sound management system'. Only a plan that covers all aspects of a river system's properties can satisfactorily deliver such an outcome.

2.1 Vision

The statement in the Draft Plan:

> *The vision of this Water Management Plan is to establish a sustainable, efficient and equitable management system for the water resources of the Tomahawk River catchment, which recognises and seeks to balance the needs of the environment with the needs and aspirations of all water users and the general community.*

The TCT considers that the Draft Plan's failure to address any criteria beyond the simple volumetric criterion renders it falling far short of fulfilling this vision. Only a plan that covers all aspects of a river system's properties can genuinely claim to have such a vision.

2.2. Objectives

The objectives of the Draft Plan are very general. From reviewing previous plans, this appears to be a general flaw in the Tasmanian water management planning process. There are no objectives specific to the Tomahawk Catchment.

The TCT's concerns are supported by the 2009 National Water Commission report. The report states in recommendation 1.6 that: "*all water plan objectives need to be specific and measurable, and plans should incorporate monitoring arrangements specifically designed to measure performance against each objective.*".

- The TCT recommends the Draft Plan be amended to include specific, measurable actions with a series of performance indicators against which the implementation of the Plan could be measured.

- The TCT recommends that measurable performance indicators should include: population status of threatened species; water quality; physical and chemical properties; biological properties; environmental seasonal flow requirements; riparian condition; and existing flow rates in the upper, mid and lower catchment, including those tributaries where water allocations are existing or potential.

2.2.1 Environmental Objectives

Without any field data and the ability in the future to collect data how is the DPIPWE going to deliver on its claim to: "*Protect base flows to provide aquatic habitat during periods of low flow, and natural refuges for instream biotic communities during naturally dry periods.*"?

Similarly, how is the DPIPWE going to measure the replenishment of groundwater resources? Does the DPIPWE know where the recharge points are and what the current rates of replenishment are during seasonal variances?

What is the status of the DPIPWE's Ground Water Flow mapping and salinity hazard preparedness report for the Dorset Municipality, undertaken with funding from the National Action Plan for Salinity?

- The TCT recommends that the Draft Plan be amended to include the implementation of monitoring and evaluation systems to measure the impacts on criteria listed in this section of the Draft Plan, ie:

  (i) instream, riparian and water-dependent floodplain ecosystems;
  (ii) important ecological and geomorphic processes;
  (iii) estuarine processes dependent on freshwater flow regimes;
  (iv) replenishment of groundwater resources.

2.2.2 Water Usage and Development Objectives

Without any instream gauges to measure flow rates, how is the DPIPWE going to provide certainty of water access, in a hierarchal approach or otherwise?

- The TCT recommends that no 'surety' of access to the water resource should be provided into the future as no volumetric data is available to support such an assumption.

- The TCT recommends that the Draft Plan be amended to ensure that instream gauges are installed at key locations in the catchment to accurately provide data for flow volumes.

3.2.4 Transfers of Water

The suggestion that water may be transferred between licence holders "*…through the release of that water into a watercourse for conveyance downstream.*" is of concern if the water is not investigated as suitable to be released into the watercourse. Any water held in an on-farm dam may be subject to contaminants

from stock, agricultural chemicals or pollutants from machinery. In addition, many on-farm dams are stocked with exotic fish for recreational purposes.

- The TCT recommends that the Draft Plan be amended to incorporate stringent standards for those dams from which water may be released back into the watercourse.

3.2.5 Metering Requirements

The Draft Plan is unclear in its intent in this section. It does not clearly differentiate between the 'taking of water' and 'commercial water users'.

> *The taking of water under Part 5 of the Act is not required to be metered at present. However, an Authorised Officer may, at their discretion, direct individuals to install a water meter to measure water extraction.*
>
> *Commercial water users including owners of all instream dams in this catchment with a licence allowing the taking of water into the dam will be required to install metering systems in accordance with relevant Departmental policies and standards.*

The TCT does not support a discretionary approach to the provision of water meters. The intent of the Draft Plan that all 'commercial water users' will need to install meters is sound but should be extended to all allocations. Water extraction should be controlled and mandated through a measured approach to water allocation. Without meters how does the DPIPWE propose to monitor how much water is being taken from the catchment?

- The TCT recommends that the Draft Plan be amended to include a specific timeframe for the establishment of water meters for **all** allocation rights across the catchment. Such a timeframe is recommended as 12 months from the commencement of the Plan.

- The TCT recommends that meters be established on all existing and future groundwater extraction wells and bores.

3.3 Groundwater Management

The statement that "*This Plan recognises the connectivity between surface water and groundwater.*" holds no weight, as there are no provisions for the management of those connections in the Draft Plan. The groundwater resource is given only passing mention but is an important resource and one which may become increasingly vulnerable to demand as surface water flows potentially diminish in the future due to climatic change.

- The TCT recommends that the Draft Plan be amended to incorporate strong management linkages between the ground and surface water components of the catchment. Identifying and establishing monitoring gauges at discharge and recharge sites would be a good start.

4. Surface Water Allocation

The TCT applauds the decision not to issue any more direct-take licences in the Tomahawk Catchment but is concerned at the assumption that there is "*considerable scope for issuing further storage allocations.*". On what basis is this

assumption made? With no current measurable trends for the various water cycle components, providing any water resource surety is irresponsible both to the environment and to those seeking assurance of allocation rights.

With the lack of scientific data to underpin the calculations and assumptions in this Draft Plan, it is particularly important that the 'Precautionary' and 'Wise Use' Principles are followed. This approach would ensure the sustainable use of the water resource for human activities whilst at the same time preserving the integral naturalness and biological balance of the aquatic ecosystems.

- The TCT recommends that the Draft Plan be amended to read *"there may be scope for issuing further storage allocations."*

- The TCT recommends that any such storages are off-stream dams, thereby negating any further impacts on the river systems' hydrological and ecological integrity caused by in-stream dams.

4.1 Surety of Allocations

As for the response provided in Section 2.2.2 above, without any instream gauges to measure flow rates, how is the DPIPWE going to provide certainty of water access, in a hierarchal approach or otherwise? It is considered that the use of data some 20 years old renders the assumption of future availability insupportable. Without any current data for flow regimes in the catchment this assumption may be considered a high-risk assertion.

- The TCT recommends that no 'surety' of access to the water resource should be provided into the future as no recent volumetric data is available to support such an assumption.

- The TCT recommends that the Draft Plan be amended to ensure that instream gauges are installed at key locations in the catchment to accurately provide data for flow volumes.

4.3 Water to Meet Rights Under Part 5 of the Water Management Act

4.4 Surface Water Allocation Limits

It is of concern that the Draft Plan bases its assumptions on hypothetical data entered into a generic modelling exercise. It appears that no field-based scientific data to support the figures given in these two sections of the Draft Plan has been collected. It is important, therefore that the assumptions made in these sections (and the whole of the Draft Plan) be clearly stated as such and not imply fact.

- The TCT recommends that the Draft Plan be amended to clearly state in all relevant sections that the data used in the Draft Plan is hypothetical and does not draw on any existing scientific raw data.

- The TCT recommends that the Draft Plan be amended to clearly state where regional and/or anecdotal information has been used in deriving the assumptions given throughout the Draft Plan.

- The TCT strongly recommends that the DPIPWE urgently addresses this considerable lack of in-field data recording by implementing instream gauges and other monitoring and evaluation systems in the Tomahawk catchment.

5.1 Restriction Management

Without any instream gauges what triggers has the DPIPWE established to alert the Department when flows in the river systems are significantly reduced? How will the DPIPWE monitor and evaluate the "*preservation of base flows for environmental purposes*"? How will the DPIPWE ensure that base flows are preserved where adequate provision for domestic, stock and environmental needs can all be met? What is the base flow measurement for the Tomahawk River and its tributaries?

- The TCT recommends that the Draft Plan be amended to include the immediate provision for instream gauges to be established at key locations throughout the catchment.

- The TCT recommends that the Plan be amended at the two-year review period to allow the incorporation of actual in-field data to the Plan, rather than the hypothetical data used for the initial plan.

In the footnote, the Draft Plan states:

> *The Department's stream flow gauging station has been non-operational since 1990. Notwithstanding this, the site of the gauging station will be used as the reference point for restriction management.*

Without an operational flow gauge how is the DPIPWE going to meet this claim?

- The TCT recommends that the Draft Plan be amended to include the immediate provision of an operational flow gauge to be re-established at the tidal point.

Part 6 Monitoring and Reporting

Without any instream flow gauges how does the DPIPWE propose to fulfil its objective:

> *The basis of measuring this Plan's effectiveness in achieving its objectives will be to analyse stream flow gauging and water extraction and management information to determine whether this Plan's provisions were properly implemented in a reporting period, and if as a result of implementing those provisions, whether the intended water regime and specific river flow conditions were achieved with respect to environmental and water access outcomes.*

6.1.1 Stream Flow Monitoring

6.1.2 Surface Water Allocations

The TCT notes the comments made in the 2009 National Water Commission report, finding 1.11, that "*water plans generally lack detailed descriptions of their specific monitoring arrangements*". The TCT believes the Draft Plan is demonstrating this flaw. The Draft Plan recommends monitoring to measure the Plan's effectiveness in achieving its objectives, but these objectives are defined so broadly that it will not be possible to measure the actual environmental outcomes. As covered in 2.2. above:

- The TCT recommends the Draft Plan be amended to include specific, measurable actions with a series of performance indicators against which the implementation of the Plan could be measured.

- The TCT recommends that measurable performance indicators should include: population status of threatened species; water quality; physical and chemical properties; biological properties; environmental seasonal flow requirements; riparian condition; and existing flow rates in the upper, mid and lower catchment, including those tributaries where water allocations are existing or potential.

How does the DPIPWE intend to undertake stream flow monitoring? The implication throughout the Draft Plan is that one-off studies will be undertaken to replace the more robust permanent recording instream gauges. Problems of 'snapshot' studies were well documented during the then Department of Primary Industries, Parks, Water and the Environment's 'State of the Rivers' project across Tasmania. Such one-off measuring is extremely limited in the quality of data it provides. The use of 'snapshot' studies is only one step better than hypothetical modelling but neither can be considered to provide quality scientific data.

- The TCT recommends that the Draft Plan be amended to provide surety that instream flow gauges will be established and that any 'snapshot' studies will be undertaken to complement, and not replace, data collected at permanent sites.

- The TCT recommends that the Draft Plan must test that the required stream flow regimes have been attained but go further to test whether these have achieved key ecosystem outcomes.

6.1.7 River Health and Water Quality Monitoring

TCT is concerned that this important aspect of the management plan will be 'dependent on Departmental resources'. The uncertainty given in this section as to the DPIPWE's capability to fulfil its obligations to monitor river health and water quality implies a lack of commitment to this important area.

- The TCT recommends that the Draft Plan be amended to emphasise that it will be a priority to monitor and evaluate the Tomahawk River system's health.

6.2 Reporting

The Draft Plan fails in regard to two recommendations made in the 2009 National Water Commission report. Firstly in finding 1.12, that *"The quality and transparency of processes for reporting on the outcomes of water plans are inadequate";* and secondly, in finding 1.12 that *"…such reports should be prepared at arm's length, clearly show how the plans' objectives are being achieved, discuss areas of success and failure and recommend any changes to the provisions of the plans*".

The National Water Commission report also reiterates that Clause 40 of the National Water Initiative states *"In the implementation of water plans, the parties will… (iii) provide regular public reports. The reporting will be designed to help users and government to manage risk, and give early indications of possible changes to the consumptive pool."*

The Draft Plan does not state what form the report will take, the level of detail required, to whom the report will be made and to whom and how it will be distributed.

- The TCT recommends the Draft Plan be amended to take into account the recommendations made in the 2009 National Water Commission report.

- The TCT recommends the Draft Plan be amended to implement the requirements outlined in Clause 40 of the National Water Initiative in relation to water management plan reporting.

7.1 A Statement of the Objectives of the Plan, Including the Environmental Objectives (section 14(2)(a))

7.2 A Description of the Water Regime that Best Gives Effect to the Environmental Objectives and Other Relevant Objectives of the Plan (section 14(2)(b))

The descriptors under each of these sections are so generic as to hold little specificity to the Tomahawk Catchment. Without any scientific field-based research, the aims and objectives of the management approach cannot be considered sensible. The generic nature of the approach to this important issue implies that only passing consideration is given to protecting environmental flows and condition. This further supports the impression that the sole purpose of the Draft Plan is to provide surety of water access to extractors.

How will the DPIPWE ensure that stream flow and condition will be maintained to the level of environmental needs, when no studies have been undertaken to determine what those needs might be?

The Draft Plan seeks to justify its approach to conservation of freshwater ecosystem values, including a number of threatened species, through the simplistic notion that the water needs of freshwater ecosystems are based on volume alone. It is vital that the Draft Plan expands on this simplistic approach and incorporates the other important parameters essential to maintaining environmental values.

- The TCT recommends that the Draft Plan be amended to include scientific data against which to measure the surety of maintaining environmental values appropriate for seasonal variances.

- The TCT recommends that the Draft Plan be amended to provide specific management approaches for the identified threatened species.

7.3 An Assessment of the Ability of that Water Regime to Achieve the Environmental Objectives and Other Relevant Objectives of the Plan (section 14(2)(c))

The TCT is pleased that the Draft Plan states that a conservative view to allocation of water rights is being taken and that no further direct-take licences will be allocated. However the TCT is concerned that the Draft Plan provides surety that there is 'considerable scope' for increasing the number of licences for water storage allocations. The rationale given for no further direct-take allocations being issued is due to the potential effects of Climate Change. It must be considered that climatic variances will equally affect the surety for significant volumes of water to be removed from the streams into water storages.

The Draft Plan's claim that *"It should be noted that … the allocation limits provided in this Plan identify the volumes of water that are available at different levels of reliability,"* is based entirely on desk-top modelling using 20-year old data.

- The TCT recommends the Draft Plan be amended to include a clear and detailed explanation of how allocation of surface water is calculated.

- The TCT recommends the Draft Plan be amended to clearly state that there **may** be potential to increase the number of water storages. No surety should be provided for reasons of climatic variances and lack of actual data to substantiate such an assumption.

7.4 An Assessment of Likely Detrimental Effects of the Plan on the Quality of Water (section 14(2)(d))

This small section on water quality is the only area in the Draft Plan which deals with quality, rather than quantity. It is disappointing that this important section makes sweeping generic statements that the Draft Plan will have no negative impact on the Protected Environmental Values (PEVs) for the Tomahawk River Catchment. How does the DPIPWE substantiate such a claim without any scientific investigation of the catchment?

- The TCT recommends that the Draft Plan be amended to include a list of the PEVs for the Tomahawk River and its tributaries and provide a prescription of management actions in how these PEVs will be maintained.

The Draft Plan states:

> *Water Quality Objectives (WQOs) for a specific body of water are the most stringent set of water quality guidelines which should be met to achieve all of the protected environmental values nominated for that body of water. As yet, WQOs have not been set for the Tomahawk River catchment.*

- The TCT recommends that as a matter of urgency WQOs be set for the Tomahawk River and its tributaries and that the Draft Plan be amended to include the WQOs.

The Draft Plan further states:

> *It is considered that the conditions that are most likely to lead to a reduction in water quality, for example cease to flow or very low flow events, will not occur with any greater frequency as a result of the water regime provided by this Plan.*
>
> *It is therefore concluded that this Plan is not likely to have any significant detrimental effects on water quality.*

The TCT is staggered that the Water and Marine Resources Division of the DPIPWE takes such a simplistic and irresponsible view towards water quality. There is no mention anywhere in the Draft Plan about the physical, chemical and biological components of the Tomahawk River and its tributaries. No mention of potential pollutants. No mention of other factors which might affect the environmental values of the waterways.

- The TCT recommends that the Draft Plan be amended to include a comprehensive assessment of the organic and inorganic components of the Tomahawk River and its tributaries.

- The TCT recommends that the Draft Plan be amended to provide management actions for monitoring and evaluating the overall health of the river system.

Summary

Water resources are undergoing significant and growing pressure as climatic variances directly and indirectly impact on the quality and quantity of surface and ground water supplies. The impact of Climate Change on species that rely on the aquatic ecosystems is largely unknown. This should result in any expansion of water resource use being undertaken in line with the 'precautionary principle' and 'wise use' approaches.

It is disappointing that the lead agency in Tasmania for managing this important resource continues to think in simplistic terms of volume. Ecosystem conservation is inherently more complex than a simple uni-dimensional approach. Equally it is essential that quality, as well as quantity, be considered in the provision of water as a resource for end users.

It is incumbent on the DPIPWE to provide more comprehensive, rigorous and professional Management Plans to effectively manage the water resource in Tasmania.