Report on environmental watering coordination and principles – Australian Capital Territory

The Australian Capital Territory's 2014- 15 annual report on implementing the Basin Plan environmental management framework (Schedule 12, Item 10)

Reporting context

The Basin Plan aims to protect and restore water-dependent ecosystems to support a healthy working Basin. To help achieve this, the Plan makes more water available for the environment and also guides how environmental watering is planned, coordinated and used at a Basin-scale.

The processes for planning and delivering environmental water including principles to be applied when watering occurs are set out in the environmental management framework in Chapter 8 of the Basin Plan. It includes:

- processes to co-ordinate the planning, prioritisation and use of planned environmental water and held environmental water, under which:
  - the Authority is obliged to prepare a Basin-wide environmental watering strategy
  - each Basin State is obliged to prepare long-term watering plans for water resource plan areas
  - each Basin State is obliged to identify annual environmental watering priorities for water resource plan areas; and
  - the Authority is obliged to identify Basin annual environmental watering priorities (Division 5)
- the principles to be applied in environmental watering
- a mechanism to enable the Authority to co-ordinate the recovery of additional environmental water.

The purpose of this report is to monitor how Basin governments are implementing the environmental management framework. The report is a requirement of Chapter 13 of the Basin Plan and relates to Item 10 of Schedule 12.

Indicators for measuring success

Implementation of the environmental management framework is evaluated using the following indicators:

- Basin-wide environmental watering strategy, long-term watering plans and annual priorities were prepared with the required content and are published, reviewed and updated, **(10.1)**
- Watering strategies, plans and priorities are prepared in consultation with other parties and having regard to matters as required **(10.2)**
- How environmental watering principles are applied **(10.3)**

10.1: Basin-wide environmental watering strategy, long-term watering plans and annual priorities were prepared with the required content, published, reviewed and updated as obligated under Part 4 of Chapter 8, Divisions 2-5

Response (CEWH only)

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10.2: Watering strategies, plans and priorities were prepared consistently with Part 4 of Chapter 8, in relation to coordinating, consulting and cooperating with other Reporters and the matters to which regard must be had (Chapter 8, Part 4)

10.2.1. Describe how coordination, consultation and cooperation occurred including with other governments

Response

The ACT Government through the Environment and Planning Directorate (EPD) has engaged a range of stakeholders to assist on the development of the ACT's Water Resource Plan. The stakeholders engaged include:

- the water utility – ICON Water
- local water scientific experts including from the ACT university sector
- Indigenous community groups and representatives
- rural landholder groups
- catchment management groups
- ACT Government agencies including the Environment Protection Authority
- NSW Government Primary Industries (Water Division)

These groups have historically and recently assisted EPD in the development of various documents including the ACT Water Strategy 'Striking the Balance'. As EPD already have a working relationship with these groups, meetings and workshops were easily established to present and discuss topics within the draft Water Resource Plan that related to each group.

Groups were provided the agenda and asked if they would like to propose additional items to the agenda for discussion. Acting as chair, EPD managed these meeting/workshops in a no surprises open format to try and engender honest advice and feedback. Actions and responsibilities were clarified to the group at the conclusion of each meeting. These actions were subsequently circulated to those participants as part of the minutes.

EPD also plans to undertake a second community consolation process in March 2016 to present a redrafted Water Resource Plan.

10.2.2. Describe what difference coordination, consultation and cooperation made

Response

Conducting consultation with the sector of key ACT stakeholders has enabled EPD to develop its draft Water Resource Plan. The key stakeholders have provided support to the

direction and approach of the draft ACT water resource plan, noting the existing water resource legislation.

Continual engagement with different representatives from local Indigenous groups including the Buru Ngunawal Aboriginal Corporation, King Brown Tribal Group, Little Gudgenby River Tribal Group, Ngarigu Currawong Clan; and United Ngunnawal Elders Council have provided advice on particular indigenous issues such as cultural flow health index and developments and the path to indigenous water values and uses. The advice on these issues has been developed with the community and incorporated into WRP (13.1) Additionally the ACT in collaboration with the MDBA conducted a field trip throughout the ACT to capture the measures and priorities of the Indigenous community over a one week period.

An outcome developed with Rural Landholders during a meeting in July 2014 was that rural water was to be clearly identified in the Water Resource Plan as a significant component of water use in the ACT and critical for sustainable farm management and agricultural production (5.3.1). The Rural Leaseholders also requested that they be kept informed and have recently been made part of the governance structure of the catchment coordination group that includes water issues but also catchment management more broadly.

10.3: How environmental watering principles were applied, consistently with Division 6 of Chapter 8, Part 4

10.3.1. Provide at least one case study that demonstrates how environmental watering principles were applied and identify the relevant principles.

Response

Ecological assessment is undertaken on the Cotter River to evaluate river response to environmental flow releases due to the rivers being regulated to supply water to the Australian Capital Territory. Sites below dams are assessed and compared with sites on the unregulated Goodradigbee River to evaluate ecological change and responses attributed to the flow regulation. To maximise environmental benefits the environmental flow throughout these reaches assists the threatened native aquatic species: Macquarie Perch (*Macquaria australasica*, endangered in the ACT and federally), Trout Cod (*Maccullochella macquariensis*, endangered in the ACT and federally) and Two-Spined Blackfish (*Gadopsis bispinosus*, vulnerable in the ACT) and Murray River Crayfish (*Euastacus armatus*, vulnerable in the ACT).

The March 2012 flood event, the largest on record since 1987, throughout the Cotter catchment not only impacted the final construction of the enlarged Cotter Dam but also caused extreme scouring, sedimentation and bed movement resulting in a reduction of the number of native species. Not surprisingly, the power of high flow events can cause a number of immediate and delayed negative effects on fish populations, either, through direct effects of mortality to eggs and larvae or, indirectly by affecting resources such as food or conditions such as habitat The mean abundance of blackfish recorded in the regulated reach during the 2012 survey was lower than 2011 and 2010. The extreme flood event had a dramatic impact on the numbers of blackfish at most sites and a catastrophic impact at the Bracks Hole site due to the large amount of sedimentation deposition that smothered eggs and spawning sites which was then compounded by predation and competition by alien species such as Rainbow and Brown Trout.

Significant reductions in the abundance of blackfish across regulated and unregulated reaches were caused by the 2011 and larger 2012 flood event. Unfortunately recruitment was low in both regulated and unregulated reaches after the flood but particularly patchy in regulated sites with 4 out of 6 sites recording less than 2 juveniles.

The Cotter River monitoring program for blackfish recommended the following actions to aid the sustainability and recruitment of blackfish populations after the impacts caused by the flood event:

- continue to support targeted and general environmental flow provisions to assist with recruitment and sustainability of threatened fish populations in the lower Cotter River particularly below Bendora Dam;
- continued sediment control works in the Lower Cotter Catchment to reduce sediment loads and improve habitat in order to increase available spawning habitat; and
- monitor the recovery of riparian and instream conditions following the floods of March 2012.

The recommendations from the Cotter River monitoring program were implemented which enhanced or complemented the existing actions required by the Environmental Flow Guidelines. Over the duration of 2013 and 2014, greater numbers of larger (age 1+ and older) blackfish were detected across unregulated and regulated reaches, than previously reported in 2012. There were irregular changes to the abundance across multiple regulated sites possibly due to the movement of location by flooding but also the effect of flood waters removing the available food resource which impacts the fish for sometime after the event.

Monitoring has found that the number of Two-Spined Blackfish captured in the regulated reach was found to exceed the relevant indicator values specified in ICON's licence to extract water. The delivery of small, sustaining, environmental flows appears to provide the requirements for blackfish through the Cotter River catchment to recover after the impacts of the 2012 flood event.

Principle 1: Environmental watering to be undertaken having regard to the Basin annual environmental watering priorities

Principle 2: Consistency with the objectives for water-dependent ecosystems

Principle 3: Maximising environmental benefits

Principle 4: Risks

Principle 5: Cost of environmental watering

Principle 6: Apply the precautionary principle

Principle 7: Working effectively with local communities

Principle 8: Adaptive management

Principle 9: Relevant international agreements

Principle 10: Other management and operational practices

Principle 11: Management of water for consumptive use