



Northern connectivity event 2018

Independent observer report

Final report

Date: 8 July 2019

DG Ref: P320

Document Control

Versions

Version	Date	Author(s)	Notes
01	16/11/2018	Garry Smith	Document Creation
02	8/07/2019	Garry Smith	Final report including DoI-Water feedback

Distribution

Version	Date	Recipient(s)	Notes
01	20/11/2018	Rachel Connell, DoI-Water	Draft report for comment
02	8/07/2019	Tracey Brownbill, Celeste Swain, DPIE	Final report

Contents

1. Introduction	4
2. Background/context	5
3. Method	6
4. Observations and findings	7
4.1. Effectiveness	7
4.2. Efficiency	9
4.3. Learnings	10
5. Conclusions and recommendations.....	12

1. Introduction

The Commonwealth and New South Wales (NSW) governments decided to undertake a joint environmental water release to connect rivers in the Barwon Darling system. This watering action was commenced in April 2018 and was dubbed the Northern Connectivity Event.

It was undertaken as a joint activity involving a range of government agencies and included the establishment of an Event Oversight Group (EOG), comprised of senior staff from each agency. The role of the EOG was to provide:

- Provide high-level advice on risks and their mitigation;
- Facilitate senior engagement as needed on key issues, including links to the policy Inter-agency Working Group;
- Monitor the intersection of regulatory, compliance, water management and communications issues associated with the successful delivery of the event.

The northern connectivity event was a major co-ordinated environmental water delivery action, and significant monitoring of the hydrological and environmental aspects of the event were put in place. In order to gain additional insights and learnings around the event management process, the NSW Department of Industry – Lands and Water Division (DoI-Water) commissioned an independent observer to review the co-ordination between government agencies.

The scope of the independent observer task was to:

- i. Independently observe the event by:
 - a. being an observer in fortnightly inter-agency meetings overseeing the event; and
 - b. having access to monitoring and evaluation data gathered throughout and at the conclusion of the event
- ii. Provide observations of:
 - a. the effectiveness of the interaction and coordination among government agencies and operators as the environmental flow is managed through the system (including how the interagency group responds to anything unanticipated e.g. a significant rainfall event that affects flows in the system); and
 - b. any insights gleaned from the monitoring and evaluation that has been put in place.

The independent observer's role had no operational or direct advisory component during the event. Garry Smith of DG Consulting was appointed as the independent observer.

2. Background/context

In January 2018, the Barwon-Darling River system downstream of Brewarrina ceased to flow, affecting over 1,000 km of the river system. Flows in the northern tributaries upstream of this point also continued to decline. This resulted in a series of stagnant, disconnected waterholes with deteriorating water quality, which posed issues for the environmental values and consumptive uses of the river system.

Rainfall in southern Queensland during March 2018 provided some unregulated flows into this part of the river, with flows of up to 1,800 ML/d reaching the Darling River at Bourke. These flows replenished some waterholes and wetted up the dry river bed downstream of Bourke, but did not provide significant flows or longitudinal connectivity down to Wilcannia.

The Commonwealth Environmental Water Holder (CEWH) and the NSW Office of Environment and Heritage (OEH) jointly committed environmental water for a major delivery event. A total of 23 GL of environmental water was released from Glenlyon Dam into the Border Rivers and from Copeton Dam into the Gwydir River. Release commenced on 17 April 2018 and continued until mid-May.

The objective of the northern connectivity event was to benefit native fish in the rivers of the northern Murray-Darling Basin by improving longitudinal connectivity, and therefore providing improved food sources, and opportunities to move and disperse to better habitats¹. The event was also an opportunity to further develop co-ordination and collaboration processes between the various government agencies involved in large scale environmental watering activities in this system.

The event resulted in flows extending along the length of the Barwon-Darling system, with 7.5 GL of water flowing past Wilcannia. Some of the flow ultimately reached the Menindee Lakes system and was re-regulated there.

As noted earlier, the event was monitored and overseen by the EOG. In addition, day to day co-ordination of ongoing issues and activities was undertaken by an inter-agency Operations Advisory Group (OAG). The organisations included in the EOG were:

- Commonwealth Environmental Water Office (CEWO)
- Office of Environment and Heritage (OEH)
- DoI-Water
- Department of Primary Industries – Fisheries Division (DPI-Fisheries)
- Murray -Darling Basin Authority (MDBA)
- Natural Resources Access Regulator (NRAR)
- WaterNSW

¹ Refer Northern connectivity event update 8 - <http://www.environment.gov.au/water/cewo/northern-rivers>

3. Method

In order to observe the event and interactions between agencies, a range of information was considered. Key sources of input for the review included:

- Direct observation of EOG meetings.
The EOG meetings were held by teleconference. Meetings were held on:
 - 4 May 2108
 - 21 May 2018
 - 15 June 2018
- EOG meeting records prepared by CEWO.
- Northern Connectivity Event Updates 1 – 8, prepared by CEWO (<http://www.environment.gov.au/water/cewo/northern-rivers>)
- Connecting the Northern Rivers – factsheet, prepared by CEWO (<http://www.environment.gov.au/system/files/resources/084b2669-7b83-4d55-b278-da1ed9156c01/files/connecting-norther-rivers-factsheet.pdf>)
- Northern Connectivity event presentation to the NSW Stakeholder Advisory Panels Workshop – June 2018
- Various media releases by agencies involved in the northern connectivity event.

To support the development of observations and recommendations, an assessment framework was developed around three key themes:

- Effectiveness – How effective were the agency interactions and co-ordination in supporting achievement of the identified objectives for the event?
- Efficiency – Did the processes applied represent an efficient use of resources?
- Learnings – were there any insights gained from the monitoring and evaluation put in place.

4. Observations and findings

4.1. Effectiveness

How effective were the agency interactions and co-ordination in supporting achievement of the identified objectives for the event?

The EOG meetings were convened and chaired by Mark Taylor of CEWO and were an important point of collaboration. Overall the meetings exhibited key procedural features that supported effective activity, including:

- The purpose of the meetings and role of the group was clearly established verbally at the first meeting.
- Each meeting had a clear agenda which followed a consistent format so that participants knew when to expect they would be called on to make inputs.
- Discussion were generally clear and concise, and the chair ensured that issues were resolved, or required actions were agreed together with responsibilities. Records of the meetings capturing key issues discussed and actions agreed were produced within a short period after each EOG meeting. This assisted in ensuring that all participants and organisations had a common understanding of the positions reached at each meeting and the agreed actions and responsibilities.
- The regular event updates developed by CEWO were provided to EOG members, and the timely data and imagery on flows and other monitoring outcomes in these updates supported informed discussion on key issues.

In relation to the content considered at the EOG meetings, this was considered to be relevant and addressed the key issues that needed to be managed to effectively deliver the event.

All meetings included discussion of key management inputs required to create the intended flow conditions in the river, including compliance activities and issues necessary to protect the environmental releases.

Each meeting also gave consideration to understanding the outcomes being achieved by the water inputs. Monitoring activities and their role in supporting evaluation of the event were a standing item on the agenda. It was considered very positive that there was a clear focus on the evaluation task from the commencement of the event so that appropriate data could be collected, and the monitoring processes fine-tuned in response to emerging conditions during the event.

The EOG also regularly discussed community engagement issues and there was observed to be general support from all agencies for maximising the effectiveness of planned community engagement activities.

Risk is defined as the effect of uncertainty on achievement of objectives. In any discussion of the effectiveness of the EOG collaboration it is important to consider the extent of the focus on risk and potential mitigation actions that was evident during the process. Risk to the successful implementation of the connectivity event were discussed at the first EOG meeting and key issues identified. As issues/risks arose during the event, they were identified and actioned with close out information reported back to the group (e.g. suspected unauthorised taking of water during the embargo period). A formal risk assessment was not made available as part of the EOG papers to guide or further inform discussions at the meetings.

Findings

Overall, the EOG process was effective in providing a forum for collaboration between the agencies involved in the northern connectivity event, and supported co-ordination of activities across the various agencies. A key observation was the high degree of good-will displayed by all participants in the EOG process, with evidence of a genuine desire to maximise the benefits to the environment and local communities through effective water delivery. Joint participation in community engagement activities also appeared to strengthen working relationships and shared purpose between the agency staff. It was also noted that even though the NRAR is quite a young organisation, becoming operational in April 2018 and still in the establishment phase, and its contributions to the EOG considerations and to the management of compliance with the embargo on consumptive take during the event were positively received by other participants.

Opportunities for improvement

Despite the overall positive findings, several opportunities were identified for improvement to maximise the effectiveness of future inter-agency environment water collaborations.

- At the first meeting, there was some confusion or a slight lack of clarity about the role of the EOG and its relationship with the OAG. Whilst this matter was quickly clarified by the chair, given the limited duration of environmental water delivery events, there is benefit in all parties being clear on their roles from the outset. Consideration could be given to developing standing Terms of Reference for an EOG process which can be ready to activate as soon as an event is confirmed.
- Based on the experience gained from this event, an updated risk assessment could be prepared considering environmental, economic, operational, human safety, legal and reputational risks. The key shared risks can then be identified. In this context, shared risks are those risks that may affect multiple parties. Such inter-organisational risks may also be unbalanced, with one party bearing many of the negative consequences of the risk whilst the benefits of the environmental watering accrue to other parties (or the community in general). Shared risks may also see one party bearing the potential consequences of the risk, whilst another party may be better placed to mitigate these risks. A strategic shared risk assessment could be used as a basis for co-ordinated attention and action by the EOG. (Noting that any risks which fall on one party and can best be mitigated by that party can be addressed by normal organisational risk management processes, and do not need to be the subject of EOG consideration).
- Involvement of all the participating organisations in the EOG interactions is likely to maximise the effectiveness of the co-ordination between agencies. Some agencies were unable to attend all of the EOG meetings and it was observed that in some instances this limited the ability of the chair to confirm actions required, or the assignment of responsibility for their implementation. Consideration should be given to what improvements to meeting processes or organisational arrangements may help to ensure consistent participation.
- A significant risk issue that was identified at the first EOG meeting was that in the event of a rainfall event generating unregulated inflows into river reaches where held environmental water entitlements being managed through them, there would be an expectation that authorised extraction under unregulated licences should be able to occur. No protocol was available to guide management of this issue in the Barwon Darling system. WaterNSW was tasked with developing this protocol in consultation with DoI-Water, however it was not able to be completed before the event finished. Fortunately, no rainfall occurred during the

northern connectivity event, however it is suggested that priority be allocated to developing the necessary protocol for managing licensed extractions in the event of unregulated tributary inflows so that this is in place and can be communicated to water users before any future environmental water deliveries into this system.

4.2. Efficiency

Did the processes applied represent an efficient use of resources?

The EOG processes used to co-ordinate between the agencies applied a range of techniques to create an efficient forum:

- Meetings were held by teleconference. This minimised travel time and costs for the dispersed EOG membership.
- The meetings were efficiently chaired by Mark Taylor of CEWO, with well-structured discussions which provided opportunities for input from all members. The Chair kept discussions focussed on the topic and ensured issues and actions were clarified.
- The notes from OAG meetings were provided to EOG members. This helped to ensure that issues being appropriately dealt with at the OAG level weren't re-prosecuted at EOG meetings.
- Some cross membership between the EOG and the OAG assisted in efficient communication and co-ordination between the two groups
- There was sufficient structure around the process. Agenda and records of meetings were provided in a timely manner. The records of meetings were concise and recorded the key issues discussed and agreed actions. Overall the processes were efficient and avoided unnecessary administrative detail.
- Meetings were generally only held when there was sufficient progress or emerging issues to warrant convening the group.
- OAG processes appeared to parallel those used for the EOG, and also sought to deliver efficient outcomes.

Findings

The EOG used to coordinate agency inputs and activities associated with the delivery of the northern connectivity event was designed and implemented in an efficient manner. Overall it was assessed as a prudent and efficient process to oversee a complex multi-agency activity with significant potential risks.

Opportunities for improvement

The northern connectivity event was a major environmental water delivery event, with flows travelling through some 2,000 km of rivers. In view of the challenge/complexity associated with attempting to manage flows through an unregulated river system on this scale, arrangements were put in place for an OAG and a high level EOG to provide advice and co-ordination on issues that may arise.

The establishment and use of the EOG for this initial northern connectivity event was assessed as being a prudent and efficient process to oversee the first instance of a complex multi-agency activity and to identify and mitigate any emerging shared risks.

A key efficiency question for any future similar event is will the same EOG process still be required, or are there more efficient options for delivery the necessary co-ordination and collaboration outcomes?

Based on the learnings from this event, there may be opportunities to better identify potential risks and mitigation actions and develop guidelines and operational procedures to address issues identified during this event. If this can be achieved, there may be a reduced need to regularly convene the EOG in addition to the OAG. This will present opportunities for improved use of staff resources, but it is also considered that some form of escalation process will still be needed to address any significant cross agency issues which may arise that are beyond the scope of the OAG members to resolve.

It is suggested that consideration be given to the need for regular EOG meetings in addition to OAG meetings to oversee future similar watering events.

4.3. Learnings

Were there any insights gained from the monitoring and evaluation put in place?

The CEWO, OEH, DPI Fisheries and other partner agencies involved in the northern connectivity event put in place an extensive monitoring effort to maximise the learnings from the event. It is understood that a thorough evaluation of the northern connectivity event is being prepared by CEWO. The MDBA and NRAR also undertook a joint review to assess the effectiveness of the arrangements NRAR put in place to oversee compliance with the temporary water restriction for the event. The report on the compliance review was published in October 2018.

Some early insights/thoughts (as at October 2018) from the monitoring and evaluation put in place are noted below.

- The preparation of the event update reports by CEWO provided very timely information to all stakeholders with an interest in the event (including agency and community stakeholders).
- The use of before and after photography and remote sensing imagery provided powerful tools to communicate progress of the event, and initial community feedback also appears to confirm the value of this approach.
- There was a strong focus on flow monitoring throughout the event, with a view to better understanding loss behaviour in the system and to improve agency capacity to model and better forecast system performance in similar events. This is seen as a critical capability to support continuous improvement in environmental water delivery.
- There was a strong focus on monitoring and evaluation from the commencement of the event, which is endorsed. The production and publication of an initial summary evaluation of the event in Event Update No. 8, directly after the event, is seen as a very positive and responsive process. This timely and relatively detailed feedback on outcomes from the event

is expected to have positive outcomes in relation to community understanding of and support for environmental watering actions.

- Whilst the need for and immediate benefits of this event were very obvious to all parties, the challenge for the future, as in most environmental watering endeavours, probably revolves around identification and design of a suitable long-term watering regime that will optimise the environmental and other benefits from the available water entitlements.
- There was some evidence of concern in relation to the communication of the temporary pumping restrictions to water users. This is an area for further consideration, and some of the techniques used by water system operators (including WaterNSW) to provide flow advice and warnings to communities downstream of major dams may be able to be adapted and applied to this issue. Providing clarity on rights to pump will be even more important in future events that may include regulated held environmental water releases and unregulated catchment inflows that can be taken by consumptive users.
- Compliance monitoring during the event identified instances of domestic and stock (D&S) take during the event, which was allowable during the embargo. The field monitoring did raise questions about what constitutes “reasonable” volumes for D&S purposes and some of the community feedback reported in Event Update 8 echoed this concern. Development and communication of guidelines for reasonable D&S use is considered to be an important issue to progress.
- Similarly, the development of protocols for management of take during unregulated tributary inflow events was identified as a priority issue to be resolved (refer also Section 4.1).
- The CEWO devoted substantial resources to this event and produced a range of excellent quality communication material which was published on its website. This material did include acknowledgements of the role of other partner agencies. A review of other agency websites revealed that many agencies involved had quite limited information on the event (often only one or two media releases were found). This was a complex event with a range of roles and responsibilities assigned across many organisations to successfully deliver the planned outcomes. In order to assist the community to better understand the roles and responsibilities of each organisation and the extent of the co-ordination involved, there may be merit in considering a more joined up, shared communication strategy for future events.

5. Conclusions and recommendations

The northern connectivity event was a major environmental water delivery action. Overall, the EOG and OAG processes were effective in providing forums for collaboration between the agencies involved in the northern connectivity event, and supported co-ordination of activities across the various agencies.

Whilst there were no significant issues identified with these processes, a number of opportunities for improvement in future events were identified. These are listed throughout the report, however some of the more significant opportunities identified are also summarised below. It is recommended that consideration be given to the following opportunities:

- Consideration be given to developing standing Terms of Reference for an EOG process which can be ready to activate as soon as an event is confirmed.
- Based on the experience gained from this event, an updated risk assessment could be prepared to identify the key shared risks for such an event. This strategic shared risk assessment could be used as a basis for co-ordinated attention and action by the EOG in future events.
- Priority be allocated to developing the necessary protocol for managing licensed extractions in the event of unregulated tributary inflows so that this is in place and can be communicated to water users before any future environmental water deliveries into this system.
- Consideration be given to the need for regular EOG meetings in addition to OAG meetings to oversee future similar watering events.
- Consideration be given to the development of improved processes for the communication of temporary pumping restrictions to water users during future events.
- Development and communication of guidelines for reasonable D&S use during an environmental watering event should be progressed.