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Department of Planning and Environment - Water
Locked Bag 5022
Parramatta NSW2124

DRAFT #2 GWYDIR REGIONAL WATER STRATEGY

The National Parks Association of NSW (NPA) appreciates the opportunity to comment on the proposed actions for the Gwydir Regional Water Strategy.

NPA's mission is to protect nature through community action. Our strengths include State-wide reach, deep local knowledge, evidence-based input to policy and planning processes, and over 65 years' commitment to advancing the NSW protected area network and its professional management. We also provide outstanding opportunities for experiencing and learning about nature through our unrivalled program of bushwalking, field surveys, bush regeneration, and other outdoor activities.

Background

Although the long-term water plan splits the region into two areas based on water management possibilities, the area covered by the regional water strategy that covers about 26,000 square kilometres can be conceived as having three distinct landforms. First there is the western zone that begins west of Armidale extends west to Moree. The protected areas within this zone include Bullala National Park, Gwydir River National Park and several other state conservation areas. Almost the entire runoff covered by the regional water strategy is generated in this western zone.

The rest of the area can be divided into a northern and southern zone west of Moree as part of what Pietsch (2006) calls the wider 'Gwydir fan-plain'. The Northern zone contains the Gwydir Wetlands, consisting of the Gingham Watercourse and Lower Gwydir (Big Leather) River. The Gwydir wetlands are an example of a terminal delta wetland, one of the few inland wetlands remaining in the Murray-Darling Basin. There is also a southern zone that contains the Mehi River, and the Mallowa and Moomin systems and respective wetlands.

In these two landforms, four sites (comprising 823 hectares) in the lower Gwydir and Gingham are internationally recognised under the Ramsar Convention and other international agreements for migratory species for their special habitat value for waterbirds. Indeed, when flooded, these wetlands sustain hundreds of thousands of breeding colonial waterbirds.

The NPA interpretation of the RWS landscape described above indicates a key challenge for the region is NOT simply *'improving the health and resilience of the regions aquatic ecosystems'* as described in the RWS. There is need to broaden the scope of this challenge to include considerations of all riparian freshwater dependent ecosystems and the associated semi-aquatic wildlife in these landforms. Indeed, the health of these indicators is, in part, how CEWO measure their success and, and by broadening the consideration, the RWS would better align to the long-term water plan for the area.

head office: [REDACTED] visit us at: [REDACTED]
tel: [REDACTED] email: [REDACTED]
[REDACTED]



General comments

1. The pattern of development of water management plans and strategies across the state seems somewhat uneven and implementation of the RWS needs to be staged to correct this. Specifically:
 - The NPA is aware there is also an Aboriginal Water Strategy and an NSW Groundwater Strategy under development. These over-arching strategies need to be in place before the RWS is finalised to ensure consistency at the regional level.
 - The NPA also considers that there are some inconsistencies with existing plans. The proposed RWS should be more aligned to, and transparent with, the Gwydir long term water strategy and the Murray Darling Basin Fish strategy. The ecological values, including native fish, frogs and waterbird species, and native vegetation communities that are identified in the long-term water plan as being 'priority' environmental assets need to be the same as those included under priority 3 in the RWS. The definitions on non-precise words (i.e., what is regarded as 'significant') also need to have the same meaning.
2. Flooding in the Gwydir Wetlands is not always synchronous with flooding of other Murray Darling Basin wetlands, such as the Macquarie Marshes or Narran Lake, so the Gwydir Wetlands play an important regional role in providing habitat when other wetlands are dry. The RWS needs to be mindful of the wider role these wetlands have beyond the boundaries of the catchment, particularly as the wildlife (birds) that depend on, and breed in these areas move beyond the boundaries of the RWS. This is important in considerations of works designed to improve 'connectivity'.
3. The NPA supports the decisions that do not increase in stream structures: such as building a new dam at Gravesend or to enlarge the Tareelaro reregulating weir. The construction of dams has many adverse effects on river hydrology and ecology. Dams limit animal movements and reduce the cover of riparian vegetation. Dams act as physical barriers to the movements of stream biota and stabilize the downstream flow regime, to the detriment of migratory species and those adapted to the intermittent flooding of backwaters and riparian areas. We also support initiatives that increase fish passages, but are mindful that the structures should facilitate both upstream and downstream movement and be designed so there is low mortality (Baumgartner et al. 2014).
4. The RWS mentions: i) it will become increasingly difficult to meet environmental needs; ii) that most environmental water is held as general security water; and iii) there is a desire to improve the health and resilience of the region's wetlands. The NPA wants the RWS to include an objective that ensures those conservation areas/RAMSAR sites that contain freshwater dependent ecosystems, have both the supply and use of environmental water embedded into their respective Plans of Management in order to maintain the integrity of those freshwater dependent ecosystems. Details about such supply and use would be outlined in specific wetland management plans for those areas and identify: i) the ecological attributes of these ecosystems; ii) how ecological water contributes to these attributes; iii) the appropriate wetting/drying cycle and iv) the supporting infrastructure and how it can be operated.
5. Action 3.6, to remediate unapproved floodplain structures, should be a high priority in the region and be finalised before floodplain harvesting works are licenced.

Comments on the Actions/Priorities

The NPA generally supports the three priorities identified in the RWS and provided additional comment on the following proposed actions under each priority:

1. Priority 1: Water for critical human needs and environment.

- The NPA endorses all initiatives (proposed action. 1.1. and 1.2) designed to improve, and make more efficient, the supply of water to urban areas.
- The NPA believes the scope of proposed action 1.3 needs more detail that 'positions' it with other processes, specifically: that the State-wide Groundwater Policy must be finalised first to inform the proposed regional approach, and it must also comply with the priorities of the NSW

Water Management Act 2000 (WMA) i.e., water to the environment then basic rights then town water supply. Within the Gwydir Catchment a balance needs to be achieved in the way groundwater is managed if urban centres and farms dependent on the water are to prosper, while maintaining important wetlands at the end of the catchment. The region is in fact a complex heterogeneous arrangement of clays, sand and gravels reflecting the meandering paths of palaeorivers. Pumping impacts are greatest in the Moree irrigation district with fluctuations in the SWL up to 15 m per year.

- Action 1.4: While NPA supports measures to improve connectivity to Menindee Lakes and the Lower Darling, the catchment is one of several NSW and Queensland catchments that play a critical role in providing water to the Barwon–Darling River. This means the relative benefits/impacts that improve connectivity with the Barwon–Darling will depend on several other factors including the way water is managed in the other catchments. Flooding in the Gwydir Wetlands is not always synchronous with flooding of other Murray Darling Basin wetlands, and at times the Gwydir Wetlands play an important regional role in providing habitat when other wetlands are dry. Another consideration is the need to maintain healthy refuge pools in dry times. Sections of river channel or waterholes that are deep relative to the rest of the channel which retain water for longer periods of time can provide refuge for aquatic biota during periods of no flow. Such refugial waterholes and lakes can also be present in floodplain areas. These features provide refugial habitat & nursery sites for aquatic life.

The proposed trigger of 195 GL in Menindee Lakes is too low for water to have localised benefits in times of stress. It is imperative that connectivity between the Gwydir and Barwon-Darling be improved but it needs to be supported by strong end-of-system flow targets and triggers for cease-to-pump events.

2. Priority 2: Sustainable water resources for new and existing users

- The NPA endorses proposed action 2.1
- The NPA endorses the proposed initiative to *Support adoption of on farm efficiency measures*. However, the description of the scope of this initiative fails to consider its consistency with proposals in priority 3. Measures known to reduce fish death from river extraction (such as those outlined in proposed action 3.4) and measures that maintain the integrity of the floodplain need to be included. Attention should also be given to subsurface irrigation technology and evaporation control options.
- The NPA endorses the proposed initiative to *Assess potential costs and benefits of event-based trade of supplementary flows*. However, the description of the scope of this initiative fails to consider its consistency with priority 3 and any environmental impact that might occur. This assessment must be conducted on a reach-by-reach basis to fully understand the environmental impacts.
- Action 2.4: *Increase the availability of high security water access licences*. We note that this option includes the original long option 26 ‘*addressing inefficient delivery system management*’ and long option 29 ‘*Investigation of licence conversions*’ both of which have been identified as having a major environmental impact. Additionally, as most environmental water is held under a general security licence, the NPA would question the logic of why should productive use conversion have priority over environmental use conversion?
- The NPA endorses the proposed initiative 2.5 as it is consistent with a need to reduce fish death from direct river/channel extraction.
- The NPA endorses the proposed initiative 2.6, 2.7, and 2.8 as it is time to recognise and respect First Nations knowledge and needs.

3. Priority 3: Better use of Environmental Water

- Action 3.1: Fully implement the NSW Floodplain Harvesting Policy. The NPA does not endorse the FULL implementation of the NSW Floodplain harvesting policy. Licensing, and measuring floodplain harvesting is important, but the proposed method of managing this will not result in sustainable water management in the region. The RWS identifies that more than one third of all surface water used in the Gwydir region comes from water diverted from the floodplain and intercepted before it enters rivers and creeks. The RWS also identifies that the long-term average annual water use in the regulated river system exceeds extraction limits.¹

There is widespread lack of trust in the modelling estimates, the higher priority needs of community and the environment are not protected, the structures used to intercept flows are permanent in nature and have secondary effects on the breeding and dispersal of aquatic wildlife, and there is no evidence to suggest management will deliver on legally mandated downstream outcomes.

- Actions 3.2 and 3.3. The NPA is generally supportive of both these actions within the context of the water management act. The environment has priority over consumptive users in the WMA during drought except for critical human needs. It is therefore essential that the operation of the regulated river maintain critical environmental values such as drought refugia, maintaining healthy refuge pools, and allowing for first flush events.

In terms of the specific question about impact on business operations: These initiatives will become increasingly less likely to impact on business operations, because under the initiatives stated earlier in RWS there will be a move to sustainable economic diversion (proposed action 2.9) and water banking (proposed action 2.5). It also noted that there will be a 10% decline in water availability with climate change.

- The NPA supports Action 3.4 to mitigate the impact of water infrastructure in native fish. But there needs to be additional measures that include consideration of floodplain harvesting infrastructure. NPA also recommends there be further detail about the type of fish passage, and that it include concepts such as 'both upstream and downstream' and 'low mortality design'.
- The NPA endorses Action 3.5, Action 3.6, Action 3.7, and Action 3.8. Action 3.6 should be a high priority in the region and be finalised before floodplain harvesting works are licenced.

Literature Cited

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¹ Ibid p 57

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Concluding statement

NPA can be contacted through [REDACTED]

Yours sincerely

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National Parks Association of NSW

protecting nature through community action

