NATIONAL PARKS ASSOCIATION OF NSW
protecting nature through community action

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Draft Gwydir Regional Water Strategy

Dear RWS team,

The National Parks Association of NSW (NPA) is a community organisation with a long history of standing up for nature – advocating both for conservation in national parks, nature reserves and state conservation areas and advocating for ecologically sustainable management of catchments, rivers, floodplains and oceans. The Armidale Branch of NPA takes a particular interest in issues affecting nature and ecological sustainability in the Northern Tablelands, northwest slopes and floodplains to our west. Armidale NPA's membership is drawn from this wider region, including Uralla.

We wish to commend the NSW Government for seeking community input to long-term strategic water planning, not just 'customer' input. This is long overdue. Water and rivers are publicly owned and should be managed to meet the diverse interests of the whole community, not just those of the people who divert water.

It is particularly important that this planning should focus on protecting natural systems and enabling their regeneration, on community preparedness for climate change and on providing for the Aboriginal people's water rights, interests and access, because the past focus on water supplies and delivery for extractive use has delivered outcomes that were not ecologically or culturally sustainable. It is time to give priority to ecological recovery, where this is possible, and to the needs of the Aboriginal people, including those down the Barwon-Darling/Barka. This will have economic benefits. Concurrently, concerted efforts are needed to enable all residents and producers in the Gwydir to adapt to climate change by appropriate behaviour change and better management of existing public and private infrastructure.

Vision: The draft Vision is too narrow because it does not encompass ensuring that management of water in the Gwydir region contributes to the health, resilience, lives or prosperity of ecosystems and people downstream along the Barwon, Darling/Barka and Murray Rivers. The Gwydir is not a self-contained basin – it does and should continue to connect intermittently and contribute flows both in wet years and when the Barwon-Darling is drying up. It is the people not the water that must adapt to climate change. Ecosystems will do what they can to adapt only if options that improve their health and resilience are implemented. It is unrealistic to suggest that the vision can be achieved by positioning the region "so there is the right amount of water" other than by changing attitudes to accept that we need fair and ecologically sustainable management of whatever rain, runoff, flow and naturally or artificially stored water we are lucky enough to have in the Gwydir. Storing more will be at the expense of ecological sustainability. Encouraging changes in some attitudes and in some practices relating to water use or management, particularly to improve efficiency and prioritise ecological sustainability, could enable an expanded vison to be achieved despite climate change.

Unfortunately, too many access licences were granted for the limited water that was available giving an unrealistic Level of Service expectation, at the expense of people and ecosystems that did not have water access licences. This overallocation should be acknowledged. The prosperity of the irrigation sector developed at the expense of ecosystems, caused both by development of some lands (e.g. obstructing floodplains) and by water diversions. The Strategy should not give priority to maintaining or increasing this prosperity. The irrigation industries adapted to the years of low allocations and put commendable efforts into improving the water-efficiency of their production. Since environmental flow rules were introduced, they have also largely accepted that the Gwydir wetlands needed an effective share of the available water. Many of the existing water management rules, such as fixing the long-term average level of take at the 1994 level of diversions, give irrigation use priority over environmental use of water – planned environmental water being whatever is left, not a fixed amount. As climate change reduces the amount of water available to share, the irrigation industries and other consumptive users should be assisted to reduce unnecessary evaporation and improve efficiency and their ability to survive long dry periods with little or no production while priority is given to water use in the order specified in the Water Management Act.

Climate modelling: It is pleasing to see that predictions of climate change have been used to develop new models predicting possible future river flows. Given that average temperatures have already risen by 1.4 degrees and the slow rate of decarbonising most large economies, the predicted worst-case scenario seems the most likely and should be used in planning.

Other information to develop the Strategy: How have changes in runoff and storage on farms in the catchment, and changes in absorption of flows by dry stream beds, banks and lowered alluvial aquifers been included in the flow modelling? Many more farm dams have been built and the average storage capacity of dams may have increased – have these changes been mapped and used in developing the model? It took a lot of repeated soaking rain to get flow streams on the Northern Tableland flowing much after the drought and it is clear that groundwater has still not been restored so the increased severity of droughts may have protracted effects on streamflow. The middle and lower sections of the Gwydir and its effluents may be acting like sponges, as Professor Martin Thoms says is happening in the Barwon (ABC regional radio 12/11/20). This year's rainfall and runoff data should be included and given due weight in the model calibration.

Start with regenerative catchment management: Interest in approaches to agriculture that regenerate soils and biodiversity is slowly increasing as evidenced by Gwydir Ark near Bingara and the academic and community interest in management of 'Lana' near Uralla. This has potential to store more water in soils then to release more gradually into drainage lines, creeks and rivers – good quality filtered water. The present draft Strategy starts managing water when it has reached rivers. It should start by promoting regenerative agriculture throughout the catchment.

This is both a change to the objectives of the Strategy, an additional opportunity and an additional option or group of options. The Regenerative Agriculture Alliance could advise on suitable options.

Listed Gwydir options:

Gravesend Dam and raising Tareelaroi weir: The National Parks Association **opposes both option 1 and option 2**. The amount of water stored in dammed rivers should not be increased. Both will make long sections of river habitat unsuitable for native fish, including threatened species, that prefer flowing habitats to still water. This recent research publication explains the importance of flowing habitats.

We are also greatly concerned by the cumulative effects of new or enlarged storages, in conjunction with Copeton Dam. These impacts include reducing the opportunities for high flows to spread across the floodplain reaching groundwater dependent ecosystems such as the river

red gum trees which retain high environmental values in an otherwise cleared landscape. High flows are essential to connect rivers sideways with their floodplain ecosystems. Connectivity is not just about connecting one river reach to the next. Currently the environment (usually but not always the Lower Gwydir and/or Gingham wetlands) benefit from low flows from three Gwydir tributaries and half the higher flows but only get flows from Warialda creek if they are in excess of what can be used for irrigation. The proposed dam and regulator could reduce how much the environment receives, in order to maintain what the irrigators get despite climate change reducing the total amount to be shared.

Dams tend to extend the period that riverine ecosystems such as trees on river banks and billabongs remain in drought because after the dams are near-emptied it may take a very long time for them to fill to the stage that high flows can be released and can combine with flows from other streams to raise the level of flow and reach these environmental assets. The high outflows from the Horton and Warialda Creek are particularly important because Copeton so rarely releases high flows. Loss of their peaks could be detrimental to many environmental assets, particularly at times such as the present when the ecosystems have not regained health and resilience

Instead of increasing the amount of storage, better use should be made of Copeton dam to keep more water in storage for droughts to use in accordance with the priorities set by the Water Management Act. This is likely to require lower allocations in years when there is a moderate amount of water stored. We strongly support option 28.

Protecting and enhancing natural systems

It is pleasing to see Options 9 to 21 included in this draft strategy. We strongly support them.

Option 10 refers to adding fishways to prioritised structures. Please note that we support removal of inessential barriers to fish passage in preference to addition of a fishway – as suggested in the additional option proposed below. This should be considered in relation to phase 2.

We support addition of three more options that are not included in the draft Gwydir Strategy:

- increasing the lengths of flowing habitats, needed by native fish in preference to predominantly still habitats that favour carp, by removing any inessential weirs or barriers – this is much better than adding a fishway which enables essential fish passage but does not improve habitats for native fish to feed and live in. It may also be possible to substantially alter some barriers so they no longer impede fish passage or create artificial pools (such as causeways that could be partly replaced by large culverts).
- Providing incentives to landholders to conserve and rehabilitate riparian, wetland and floodplain vegetation
- Riparian habitat restoration and re-establishing threatened species

Connectivity with downstream systems: We strongly support Option 24. This is essential, in combination with connectivity flows from other catchments, to both people and ecosystems downstream. Proper management of floodplain harvesting to get the level of diversions down to or below the 1993/4 level of diversions will be essential to achieve connectivity not only down into the Barwon but between the Barwon-Darling channel and its billabongs and river bank ecosystems.

Barwon Nature Reserve and State Conservation Area is one example of the ecosystems that benefit from outflows from the Gwydir Region. It is located in the southwest corner of this region (that green patch on the Options map). It has ecosystems along Thalaba Creek that depend on

its occasional flows and magnificent River Bank trees and billabongs that depend on high flows from the Barwon.

Aboriginal People's water rights, interests and Access: The National Parks Association supports improved recognition through implementation of options 19, 21 and 33 to 40. We are happy for the Aboriginal people to prioritise those warranting earliest implementation.

Preparedness for ongoing climate change: While hotter temperatures, higher evaporation and greater variability in flows are already being experienced as the new norm, we expect they will get worse. We **strongly support a focus on Option 3** - Reuse, recycling and stormwater projects – to enable communities to be healthy and resilient. While some projects may be easily implemented it is important to provide strong support to communities to find innovative ways to achieve behaviour changes as well as infrastructure changes that enable a good quality of life without high water use.

Given that some aquifers are already being used unsustainably and that lowering the alluvial aquifers may adversely affect groundwater-dependent ecosystems, we are wary of over-reliance on groundwater.

An additional option to include is to reduce the high evaporation rates from on-farm water storages, for example by encouraging the trialling of alternative approaches such as floating covers, floating solar panels or planting trees around some storages (windbreaks can reduce wind speeds for a distance about 12 times the tree height, reducing evaporation on windy days as well as from shadowed areas). There may be other diverse options for investing in reduction of the amount of water used in economic production so that producers can survive the unavoidable declines in water supplies.

Completion of an effective Gwydir Regional Water Strategy that enables ecologically sustainable management of the available water is essential for ecosystems and communities alike.

This submission may be made public.

Yours faithfully

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