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### **Draft Border Rivers 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 the Border Rivers.

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 Border Rivers to adapt to climate change by appropriate behaviour change and better management of existing public and private infrastructure.

**Vision:** "Our vision for the strategy is to support the delivery of healthy, reliable and resilient water resources for a liveable and prosperous Border Rivers region. To achieve this, we need to position the region so there is the right amount of water of the right quality delivered in the right way for people, Aboriginal people, towns, industries and the environment."

This draft Vision is too narrow because it does not encompass ensuring that management of water in the Border Rivers region contributes to the health, resilience, lives or prosperity of ecosystems and people downstream along the Barwon, Darling/Barka and Murray Rivers. Administrative and management separation of the NSW Border Rivers as a separate "region" is as artificial as a border in the middle of a river and changing the name of the main river from Macintyre to Barwon before it leaves this 'region'. The Barwon-Darling/Barka used to have much more regular flows. The tributaries and anabranches of this river are the main source of inflows to the Barwon above Walgett, but their outflows have been reduced to ecologically and socially unsustainable levels.

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 is in the region. Storing more water in a new or enlarged dam 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 vision to be achieved despite climate change.

Unfortunately, too many access licences were granted for the limited water that runs into the streams 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, including both local suppliers and those businesses that spend profits elsewhere, has been at the expense of ecosystems and other people, notably along the Barwon-Darling/Baaka. The Strategy should not give priority to maintaining or increasing this prosperity from extractive use of water for irrigation. The irrigation industries adapted to the years of low allocations and put commendable efforts into improving the water-efficiency of their production.

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.

**Floodplain Harvesting:** We are very concerned that diversions from this region continued to increase beyond the 1994 level through floodplain harvesting – we have reason to strongly suspect that the increase in harvesting capacity and in volumes diverted is substantially higher than your Department’s recent modelling claims.

The Regional Strategy should include substantial reduction of floodplain harvesting and focus on limiting these diversions urgently to rapidly achieve significant recovery of ecosystems both within the Border Rivers floodplain - anabranches, lagoons, riparian vegetation, groundwater-dependent ecosystems – and in and along the Barwon-Darling/Baaka River. Flows high enough to soak into the banks, fill the billabongs and enable sustained ecological recovery in the Darling/Baaka need floods from the Macintyre floodplain as well as from other tributaries.

Armidale Branch of the National Parks Association is concerned that when finalised, the Border Rivers Water Strategy, should contribute to greatly improving the flows needed to support the survival and regeneration of riparian ecosystems in Budelah Nature Reserve, Barwon Nature Reserve and Barwon State Conservation Area, magnificent River Red Gums all the way down the Barwon and Darling/Baaka, and the Darling floodplain sections of Toorale National Park, Gundabooka National Park and Kinchega National Park.

**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 Border Rivers and its anabranches 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. 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 Border Rivers options:**

Option 1: We strongly object to the proposal to dam the Mole River. No more money should be wasted on the business case for a dam. Building the dam is not an option and nor should it be.

The Mole is a lovely river with high ecological values which is a refuge for many species – even after the extreme drought 4 threatened fish, platypus and unusual turtles have survived there. There are threatened species in the dam site that will not benefit from the stored water because it will destroy the type of habitat they need, such as Southern Purple Spotted Gudgeon. The reach below the dam will have its flow regime, temperature and some other aspects of water quality grossly altered by the dam even if there is some effort to manage it in ways that limit its impacts. The Mole flows into the Dumaresq River which has an aquatic ecological community that is recognised as endangered by river regulation.

The existing recreational and social values of the Mole River have also been ignored and would be put at risk.

Buy trapping high flows and floods, notably after every dry period and drought, will both reduce the benefits that these flows would otherwise provide, often in conjunction with flows from other tributaries, to ecosystems all the way down the Mole/Dumaresq/Macintyre/Barwon/Darling, and artificially extend the periods of drought experienced by those river ecosystems and the people along them.

If the dam shifts the pattern of water extraction over time to enable more use in dry months or years and total diversions are not increased to meet the Cap and Basin Plan long term average diversion requirements, there would need to be some increase in other flows into the Barwon but this would presumably be mostly in wet years: the Barwon ecosystems will die waiting for this to happen.

Option 2: We strongly object to any further raising of Pindari Dam. This would flood more of Severn River Nature reserve – 1m high means many metres wide as well as over 12 km long.

The rivers below the dam are already adversely affected and would be worse affected for the reasons stated above regarding Option 1.

Option 3: We strongly object to the proposed raising of Mingindi Weir. It will cause unnecessary loss of yet more of the flowing river habitat – replaced by relatively still water that is more suited

to carp and bluegreen algae than to threatened native fish, river mussels and healthy ecosystems. More of the riparian habitats will be adversely affected, including along any anabranch channels that are blocked to keep water in the larger weir pool.

Mungindi was not listed as a town with critical water needs. If increased storage is needed to cope with climate change, an off-stream storage could be built similar to that at Nyngan.

We agree that fish passage past Mungindi is necessary. There may be some advantage in changing the weir so that it can be managed rather than having a fixed crest, for example to enable flows to flush straight through to maximise water quality and to enable fish to move both up and down as they wish during periods of increased flow. This only requires a small, manageable weir not a larger one. The weir should not be enlarged to enable irrigation uses. Ecosystems downstream need more natural flow regimes, not more regulated ones.

Option 4: We object to any reduction of flows reaching ecosystems along the Boomi River. These include part of Budelah Nature Reserve. So far as possible, its flow regime should be made more natural not less natural. Piping would create a disincentive to work out how to best meet ecological needs.

Option 5: Water should not be considered as belonging to one or other State. A co-operative approach to multi-objective management of the whole system is needed. This should include maintaining or improving the health of riparian vegetation and ecosystems along the Callandoon and other streams referred to. These should not be described and thought of a 'breakouts'. Work may be needed to address issues such as erosion which may be a problem for the ecosystems as well as flow management.

Option 6: supported

Option 7: opposed. Money should not be wasted on these investigations.

Option 8: strongly opposed. Waters of the Clarence River are not going to waste. They are needed there. We have to learn how to live better with less water at the same time as improving the health of the Murray Darling Basin from its own rainfall and flows.

Option 9: supported

## **Protecting and enhancing natural systems**

It is pleasing to see Options 10 to 24 included in this draft strategy.

We strongly support all of them. Funds and staff brainpower should be spent on implementing these rather than on increasing storages.

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. Glenarbon, Cunningham and Bonshaw weirs should be removed. Local people have suggested that artificial log jams could be created to ensure that small pools remain where people need to put pumps in or want a to keep a pool for other reasons, doubling as improved habitat. We also suggest this additional option if it is not part of Option 15:

- 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).

**Option 23: Connectivity with downstream systems:** Please see the comments in our introduction regarding this essential part of the strategy (why was it not listed as a commitment?)

**Aboriginal People's water rights, interests and Access:** The National Parks Association supports improved recognition through implementation of options 42-51. 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 26 and 27** - Reuse, recycling and stormwater and efficiency 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, including the lovely trees back from the rivers' edges, we are wary of over-reliance on groundwater. The Dumaresq has possibly already changed to a system where water is 'lost' from the river to groundwater nearly all the time instead of being sustained by groundwater returning to the river, to the detriment of river ecosystems and people further downstream.

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 Border Rivers 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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