



The Queensland Murray-Darling Committee Inc. Submission on the Temporary State Planning Policy 2/11

TSSP 2/11

Submission

Submission To:

Queensland Reconstruction Authority
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ATTENTION: *Planning for stronger, more resilient floodplains*
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Submitting Organisation:

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This submission is presented by the Chief Executive Officer, Geoff Penton, on behalf of the Queensland Murray-Darling Committee Inc. (QMDC). QMDC is a regional natural resource management (NRM) organisation that supports communities in the Queensland Murray-Darling Basin (QMDB) to sustainably manage their natural resources.

1.0 Background

The true extent of the impact of the series of flood events in the QMDB is yet to be understood. The magnitude of damage in the Condamine, Border Rivers and Maranoa Balonne Catchments is significant.

QMDC responded to these events by delivering assistance directly to landholders needing help with flood recovery. QMDC formed partnerships with volunteer organisations such as Landcare, Volunteering Queensland, Conservation Volunteers Australia, BlazeAid, and the Regional Councils of Southern Downs, Goondiwindi, Toowoomba and Western Downs. We also liaised with a number of State agencies including QRAA, NGO's and local businesses to provide landholders with access to resources and teams of volunteers. Up until October 2011, 749 volunteers have worked to mend, well over 300 kilometres of fence line. Their time equates to: 18 FTE years (220 employee working days) or 4,010 FTE days or 28,674 hrs.

QMDC and Landcare staff were able to utilise already existing networks to make direct contact with landholders in flood affected areas to ascertain details of their situation and what sort of assistance they needed to start a recovery process because of our strong networks. Approximately 430 landholders were contacted directly by phone or face to face, with over 250 receiving voluntary labour help with clean up and recovery activities by October 2011.

Delivering this assistance was a marathon not a sprint as the scale of damage was quite vast and landholder capacity to re-build was limited due to prolonged past droughts. Most damage predictably occurred in the floodplain areas.



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QMDC through its own technical staff and a group of recently retired departmental technical staff provided where they could technical advice to landholders regarding property planning, fencing layouts, soil conservation, pasture recovery and management and river management. Many landholders are still requesting advice to rebuild property infrastructure in a manner that is more resilient for the future for both floods and droughts.

Substantial erosion to the point where landholders cannot access farms, orchards, vineyards, dairies, and irrigation paddocks has occurred. Many landholders have not been able to meet costs to repair. This unrepaired damage will affect local and regional communities' productivity, rural employment and long term economic viability/recovery.

Landholders still require direct assistance with soil conservation works, riparian management, fencing repairs, infrastructure repairs and rebuilding, pasture re-establishment, weed infestations etc.

Our involvement in flood recovery has highlighted the following in relation to the Temporary State Planning Policy 2/11 (TSPP) that:

- Planning for stronger, more resilient floodplains relies, in part, on legislation and planning schemes that limit development projects or the building of new critical infrastructure or levees on floodplains within established buffer zones.
- The prevention, management or mitigation of climate change impacts whether direct, indirect or offsite should be supported by existing and/or new legislation so that natural assets are adequately protected, within determined threshold limits for the asset, defining the point at which the impact is no longer acceptable.
- That the Floodplain Management Guidelines in this region must be implemented through nominated mechanisms, some of which is enforcement.
- That appropriate planning and design of infrastructure at the landscape and local level must identify and adequately protect all waterways, floodplain functioning and wetlands, considering values and function, taking into account:
 - In-stream flow regimes
 - Surface water flow systems (eg potential contaminants such as salt, erosion, groundwater interface, barriers to movement of flow and in-stream species risks)
 - Ground water flow systems
 - Riparian function (eg ground cover, bank stability, habitat, connectivity)
 - Wetland and floodplain function
- Local and regional planning processes and schemes offer mechanisms to promote sustainable use of natural resources, and that local and regional planning schemes need to offer floodplain protection. The effectiveness of these mechanisms is compromised when regional economic development dominates over appropriate floodplain management, which may in turn accelerate the potential for widespread flood damage.
- Regional NRM Plans should be considered by key stakeholder organisations or institutions when they are formulating new regional policies, strategies and plans.

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Greater regional and nationwide recognition of the role regional NRM Plans play will help to promote conservation strategies that address challenges caused by a changing climate and which serve to identify and protect both regional and national significant floodplain ecosystems.

Specific comments on TSPP 2/11 Planning for stronger, more resilient floodplains - September 2011

2.0 Local government planning schemes

Planning schemes should strongly encourage developers to uphold Sustainable Planning Policies principles and policies. Once a TSPP is to be adopted or confirmed by a local government in a planning scheme, a public process is needed to allow local communities to contribute their knowledge on flood events and flood management to the TSPP. Planning schemes need to align with and reflect objectives of TSPP.

3.0 Outcome sought by TSPP

3.1 QMDC recommends widening the outcome sought to include families and communities that live outside towns and cities in remote areas (See p.4). QMDC also views it necessary to articulate that the development referred to in the TSPP also includes local and state government infrastructure.

3.2 QMDC supports the identification of a natural hazard management area for flood, however recommends the inclusion of a clear, formal definition of "flood event". The Bureau of Meteorology refers to sizes but not a specifically a "defined flood event". It is unclear whether or how the event is to be defined in relation to flood level and size or the probability of experiencing the given flood. Is it, for example, the maximum flood area, or 'Q100' level or performance based or a Q100 event plus performance based or more regular inundation? It should be recognised that flood events are almost unique in terms of rainfall distribution within a catchment; flow patterns; and changing development within a catchment. All these factors plus others influence the severity of floods. QMDC suggests a more adaptive approach or definition may be appropriate (See section 1.1 of TSPP at p.5 & Annex 1 at p.7).

3.3 QMDC also recognises the need for more training of local government staff or the provision of funding for technical expertise to ensure the identification mechanism is informed and facilitated by best available science and appropriately skilled technicians.

4.0 Effect of TSPP

4.1 QMDC has a number of concerns in relation to the associated overlay maps and the determination of Natural Hazard Management Areas (NHMA). The TSPP does not articulate whether these areas and their related overlay maps denote a "fuzzy" or "binary" membership where local governments set development limits within floodplain areas. QMDC recognises that binary membership poses challenges to the outcome sought, for example, the level a freeboard is set. QMDC is concerned that if local government seek development in their region they may want floodplains to be defined as a smaller area than may be necessarily so.

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It is important to design the TSPP so that future impacts are modelled in order to evaluate proposed development. QMDC does not support flood mitigation measures that may create perverse outcomes such as an open cut mine pit being considered as water level mitigation during a flood (Refer also to section 14.1 of this submission).

QMDC suggest if the NHMA denote fuzzy membership, including a “buffer” zone with the NHMA, it could serve to alert where there is potential for error or inaccuracy. Additionally a binary membership, if it is to denote a definitive layer, should include a clear process to update the NHMA with new or improved data after, for example, subsequent floods or more refined mapping.

4.2 The spatial resolution of the map imagery provided with the proposed TSPP is too broad to catch the smaller upland creeks and streams. QMDC’s GIS and mapping flood recovery efforts after the 2010/2011 events observed greater damage than what these TSPP maps offer.

4.3 The TSPP needs to clarify what sort of proof is acceptable when local government proposes to define or amend an Interim Floodplain Assessment Overlay Map and Model Code (IFAOM). The TSPP also needs to identify who will oversee this process (See Annex 1 at p.7). QMDC recommends that guidelines clearly outline how and who can change maps.

5.0 Implementing the TSPP

Ongoing mapping, modelling and analysis support is essential for the TSPP to be a useful planning tool to local government and communities living on floodplains. QMDC supports the TSPP application of an extensive mapping process to evaluate floodplains across Queensland.

6.0 Operation of the TSPP

QMDC suggests the 12 month timeframe may need to be extended to allow local government more realistic time to make or amend a planning instrument ensuring it is informed by best available science.

Specific comments on Planning for stronger, more resilient floodplains – Part 1: Interim measures to support floodplain management in existing planning schemes

7.0 Development of maps on a catchment basis

QMDC supports mapping of floodplains on a catchment by catchment basis. Pattern of flow is variable, so rainfall measurement at specific locations needs to be documented within a whole catchment (See p.2)

8.0 Improving resilience

8.1 Improving the resilience of communities (See p.3) in the QMDB requires the correction of past mistakes and not permitting the building of new infrastructure or levees on floodplains within established buffer zones. It also requires enforcing the Floodplain Management Guidelines.



8.2 Appropriate planning and design of infrastructure at the landscape and local level is needed to identify and adequately protect all waterways, floodplain functioning and wetlands, environmental values and function, taking into account:

- In-stream flow regimes;
- Surface water flow systems (eg potential contaminants such as salt, erosion, groundwater interface, barriers to movement of flow and in-stream species risks);
- Ground water flow systems;
- Riparian function (e.g. ground cover, bank stability, habitat, connectivity); and
- Wetland and floodplain function.

QMDC questions whether the State's power to determine a proposed development as a 'significant project' is improving the resilience of communities in the QMDB. 'Significant project' design should be required to incorporate state planning policies into their decision making. Permitting the continuation of development in the floodplains on a large scale such as an open cut mine or a CSG field does not take seriously the vulnerabilities of development in a floodplain.

9.0 Toolkit for management of floodplains

9.1 Regional NRM plans serve as management tools often ignored although readily available to address the complexities of managing the floodplains. These plans should be included in a planning scheme's toolkit.

9.2 Landscape planning for floodplains including recharge and discharge areas is a tool that can be utilised to incorporate wider landscapes and use local landholder and community knowledge to define these areas.

9.3 A comprehensive understanding is required: of the impact of the 2011/2012 events; the floodplains and river systems structure (as per Part 3 at p.4) to enable the analysis (as per Part 4 at p.4) and to ensure a planning scheme can be delivered and an IFAOM safely implemented. The review of existing development standards or disaster warning systems, response plans or evacuation procedures is necessary so all planning schemes align succinctly and are informed by the most up to date information and knowledge.

9.4 The development assessment needs to account for cumulative impacts and link data with the IFAOM.

9.5 Mechanisms for continuously improving flood mapping need to be consistently applied. Interim flood assessments need to take into account future development scenarios e.g. planning schemes.

9.6 The interim toolkit must be able to be administered easily.



10.0 Objectives of the Guideline

QMDC supports the objective to promote a greater correlation between floodplain management and land use planning. That correlation needs to recognise the multiple functions of a floodplain, identify what natural and human assets are at greatest risk and which strategically require the greatest protection, for example, aquatic ecosystems, strategic cropping land, endangered vegetation, community health infrastructure etc (See p.4).

11.0 Objectives of floodplain management

11.1 QMDC asserts the objectives as determined by the Standing Committee on Agriculture and Resource Management (See p.7) need amending, so as to clearly outline who is responsible for what and when and how management is to be implemented.

11.2 The objectives of floodplain management also need to state to what extent the effect of and damage caused by flooding is limited and how acceptable levels will be measured.

11.3 QMDC supports the objective aimed at protecting the natural function of the floodplain.

11.4 A floodplain's natural function may not allow for multiple land uses and planning may need to encourage limited land use on a floodplain. This principle should be incorporated into the principles of this TSPP.

11.5 An additional consideration should be the objective to spread flood flows across floodplains in order to protect key assets.

12.0 Understanding the river systems

QMDC agrees with the tenets of community ownership and catchment and landscape planning and governance. The benefits gained by reaching agreement amongst stakeholders dependent on river systems will be reflected by stakeholders in their willingness to collaborate on management actions (See p.8).

13.0 Analysis

13.1 QMDC would recommend the Guidelines highlight the importance of considering land use planning and landscape planning in order to promote a total catchment approach (See p.9). There is a need to understand surface and ground water interactions at a landscape level.

13.2 The development assessment process needs to account for cumulative effects.

13.3 A fundamental component of any floodplain analysis should include agreement from community and industry groups on key principles and objectives.

13.4 In addition to hydraulic and hydrologic analyses, consideration should be given to wider landscape relationships e.g. groundwater and surface water processes; assets to be protected; and consultation objectives.

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14.0 Interim mapping datasets

14.1 There are potentially big assumptions included in each dataset and when combined together the potential errors will multiply (See p.10). For this reason QMDC is suggesting that a binary, static map is not the best approach as all datasets will change as procedures and data are updated (Refer also to section 4.1 of this submission).

14.2 In the QMDB 'soils' are not mapped, only 'like' groups of them. These are called Land Resource Areas. Incorporation with the SALI database is likely to be very different. Soils mapping will need to be site specific.

14.3 Floodplain maps need to be locally validated through a robust consultation process before being approved as a planning instrument.

15.0 New construction standards

QMDC recommend that specifics for the design and construction of new buildings in a flood hazard area for farming infrastructure need to be provided (See p.12).

16.0 Planning scheme provisions - model code

QMDC supports the same meaning given to development-related terms in the Guideline and its Schedules. QMDC also asserts that model codes should apply to all developments that impact on floodplains (See p.14).

17.0 Understanding the operation of an overlay

QMDC recognises that to produce a credible IFAOM, the Floodplain maps must be validated within the community by performance outcomes and acceptable solutions, which are then articulated as reliable model code provisions (See p.15).

18.0 Adopting a flood level

QMDC refers to early issues raised in section 4.1. QMDC's concern is that in order to set a 'freeboard' level, a buffer zone needs to be included in that set level to allow for precaution where scientific uncertainty still prevails (See p.17).

19.0 Schedule 1-Interim Floodplain Assessment Overlay Model Code

QMDC would add the following to these sections (underlined and highlighted in red) (See pages 18-19):

For Material Change of Use and Building Work

AO1.1. New buildings are:

- located outside the overlay area, or;
- located on the highest part of the site to minimise entrance of floodwaters; or
- elevated **to a point that is above.....**; and
- provided with clear and direct pedestrian and vehicle evacuation routes off the site.

Note: If part of the site is outside the IFAO Floodplain Mapped area, this is the preferred location for

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all buildings.

For Reconfiguring a Lot

AO1.2. New lots are:

- located outside the overlay area; or
- **located so that the capacity of the floodplain is not reduced in areas within the overlay areas;**
- or**
- where possible, located on the highest part of the site to minimise entrance of floodwaters .

Note: If part of the site is outside the IFAO Floodplain Mapped area, this is the preferred location for all lots (excluding park or other relevant open space and recreation lots).

Note: Buildings subsequently developed on the lots created will need to comply with the relevant building assessment provisions under the Building Act 1975.

AO1.3. Road and/or pathway layout provides a safe and clear evacuation path:

- if a flood level is adopted¹, by locating entry points into the reconfiguration above the flood level and avoiding culs-de-sac or other non-permeable layouts; or
- by direct and simple routes to main carriageways.

AO1.4. Road and/or pathway layout does not divert floodplain flows

AO1.5. Signage is provided on site (regardless of whether land will be public or private ownership):

- indicating the position and path of all safe evacuation routes off the site; and
- if the site contains or is within 100m of a floodable waterway, hazard warning signage and depth indicators are also provided at key hazard points, such as at floodway crossings or entrances to low-lying reserves.

PO2. Development is resilient to flood events by ensuring design and construction account for the potential risks of flooding.

For Material Change of Use and Building Work (Residential Uses)

AO2.1. Residential dwellings are not constructed as single-storey slab on ground.

Note: The highset 'Queenslander'-style house is a resilient low-density housing solution in floodplain areas. Higher density residential development should ensure only non-habitable rooms (e.g garages, laundries) are located on the ground floor.

AO2.2 Constructed levees provide protection for defined events e.g. 1: 100 events

For Material Change of Use and Building Work (Non-Residential Uses)

AO2.3. No Acceptable Outcome specified.

Note: The relevant building assessment provisions under the Building Act 1975 apply to all building work within the IFAO Floodplain Mapped area and must take account of the flood potential within the area.

Note: Resilient building materials for use within the IFAO Floodplain Mapped area should be



determined in consultation with Council, in accordance with the relevant building assessment provisions.

PO3. Development directly, indirectly and cumulatively avoids any significant increase in water flow, velocity or flood level, and does not increase the potential for flood damage either on site or on other properties.

For Material Change of Use, Building Work, Reconfiguring a Lot and Operational Works

AO3.1. Works in urban areas² associated with the proposed development do not involve:

- any physical alteration **in terms of direction and capacity** to a watercourse or floodway including vegetation clearing; or
- a net increase in filling.

AO3.2. Works in areas other than an urban area² either:

- do not involve a net increase in filling greater than 50m³; or
- do not result in any reductions of on-site flood storage capacity and contain within the subject site any changes to depth/duration/velocity of flood waters; or
- do not change flood characteristics outside the subject site in ways that result in:
 - o loss of flood storage;
 - o loss of/changes to flow paths;
 - o acceleration or retardation of flows; or
 - o any reduction in flood warning times elsewhere on the floodplain.

20.0 Case studies

It would be useful to provide rural case studies illustrating material change of use for farming infrastructure (See pages 20-21).