

## Summary of Basin Plan environmental objectives

Source: Mallee CMA (2014). Sustainable Diversion Limit Adjustment Phase 2 Assessment Supply Measure Business Case: Nyah Floodplain Management Project

1. To protect and restore a subset of all water-dependent ecosystems in the Murray-Darling Basin ensuring that:

a) Declared Ramsar wetlands that depend on Basin water resources maintain their ecological character; and

b) Water-dependent ecosystems that depend on Basin water resources and support the lifecycles of species listed under the Bonn Convention, China-Australia Migratory Bird Agreement (CAMBA), Japan-Australian Migratory Bird Agreement (JAMBA) or Republic of Korea-Australia Migratory Bird Agreement (ROKAMBA) continue to support those species; and

c) Water-dependent ecosystems are able to support episodically high ecological productivity and its ecological dispersal.

2. To protect and restore biodiversity that is dependent on Basin water resources, including by ensuring that ecosystems are protected and, if necessary, restored so that they continue to support those life cycles

a) Water-dependent ecosystems that:

- Depend on Basin water resources; and
- Support the lifecycles of listed threatened species or listed threatened ecological community, or species treated as threatened or endangered in State or Territory law.

b) Representative populations and communities of native biota are protected and if necessary restored.

3. That the water quality of Basin water resources does not adversely affect water-dependent ecosystems and is consistent with the water quality and salinity management plan.

4. To protect and restore connectivity within and between water-dependent ecosystems including by ensuring that:

a) The diversity and dynamics of geomorphic structures, habitats, species and genes are protected and restored; and

b) Ecological processes depend on hydrologic connectivity longitudinally along rivers, and laterally, between rivers and their floodplains (and associated wetlands) are protected and restored; and

c) The Murray Mouth remains open at frequencies, for durations and with passing flows, sufficient to enable the conveyance of salt, nutrients and sediments from the Murray-Darling Basin to the ocean; and

d) The Murray Mouth remains open at frequencies, and for durations, sufficient to ensure that the tidal exchanges maintain the Coorong's water quality within the tolerance of the Coorong ecosystems' resilience; and

e) Barriers to the passage of biological resources (including biota, carbon and nutrients) through the Murray Darling Basin are overcome or minimised

5. That natural processes that shape landforms (for example, the formation and maintenance of soils) are protected and restored.

6. To provide habitat diversity for biota at a range of scales (including, for example, the Murray-Darling Basin), riverine landscape, river reach and asset class).
7. To protect and restore food webs that sustain water-dependent ecosystems, including by ensuring that energy, carbon and nutrient dynamics (including primary production and respiration) are protected and restored.
8. To protect and restore ecosystem functions of water-dependent ecosystems that maintain population (for example recruitment, regeneration, dispersal, immigration and emigration) including by ensuring that;
  - a) Flow sequences, and inundation and recession events, meet ecological requirements (for example, cues for migration, germination and breeding); and
  - b) Habitat diversity that supports the life cycles of biota of water dependent ecosystems (for example habitats that protect juveniles from predation) is maintained.
9. To protect and restore ecological community structure and species interactions.
10. That water-dependent ecosystems are resilient to climate change, climate variability and disturbances (for example, drought and fire).
11. To protect refugia in order to support the long-term survival and resilience of water-dependent populations of native flora and fauna, including during drought to allow for subsequent re-colonisation beyond the refugia.
12. To provide wetting and drying cycles and inundation intervals that do not exceed the tolerance of ecosystem resilience or the threshold of irreversible changes.
13. To mitigate human-induced threats (for example, the impact of alien species, water management activities and degraded water quality).
14. To minimise habitat fragmentation.