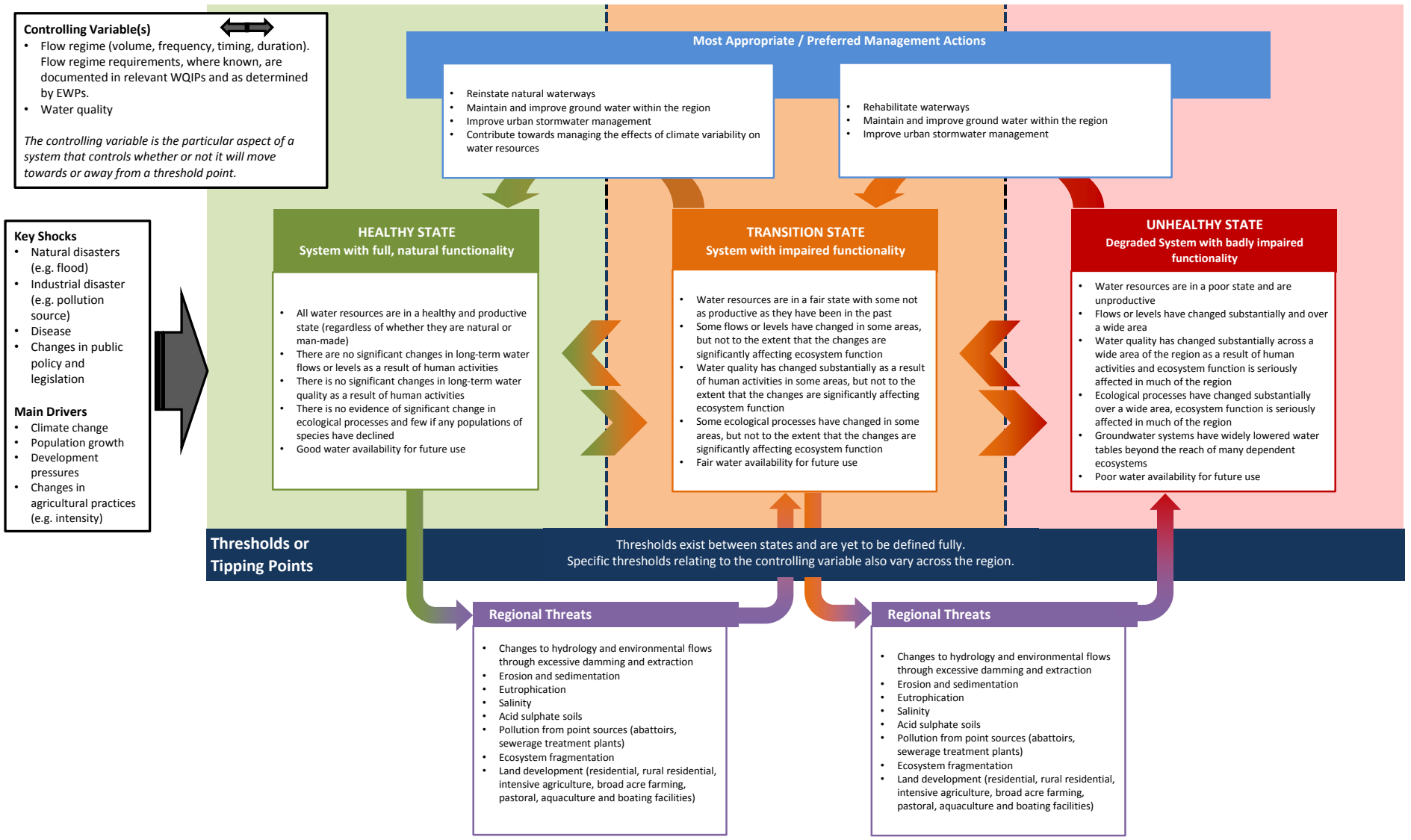
Controlling Variable(s)
Flow regime (volume, frequency, timing, duration). Flow regime requirements, where known, are documented in relevant WQIPs and as determined by EWPs.
Water quality
The controlling variable is the particular aspect of a system that controls whether or not it will move towards or away from a threshold point.
Key Shocks
Natural disasters (e.g. flood)
Industrial disaster (e.g. pollution source)
Disease
Changes in public policy and legislation
Main Drivers
Climate change
Population growth
Development pressures
Changes in agricultural practices (e.g. intensity)
Most Appropriate / Preferred Management Actions
Reinstate natural waterways
Maintain and improve ground water within the region
Improve urban stormwater management
Contribute towards managing the effects of climate variability on water resources
Rehabilitate waterways
Maintain and improve ground water within the region
Improve urban stormwater management
HEALTHY STATE
System with full, natural functionality
All water resources are in a healthy and productive state (regardless of whether they are natural or man-made)
There are no significant changes in long-term water flows or levels as a result of human activities
There is no significant changes in long-term water quality as a result of human activities
There is no evidence of significant change in ecological processes and few if any populations of species have declined
Good water availability for future use
TRANSITION STATE
System with impaired functionality
Water resources are in a fair state with some not as productive as they have been in the past
Some flows or levels have changed in some areas, but not to the extent that the changes are significantly affecting ecosystem function
Water quality has changed substantially as a result of human activities in some areas, but not to the extent that the changes are significantly affecting ecosystem function
Some ecological processes have changed in some areas, but not to the extent that the changes are significantly affecting ecosystem function
Fair water availability for future use
UNHEALTHY STATE
Degraded System with badly impaired functionality
Water resources are in a poor state and are unproductive
Flows or levels have changed substantially and over a wide area
Water quality has changed substantially across a wide area of the region as a result of human activities and ecosystem function is seriously affected in much of the region
Ecological processes have changed substantially over a wide area, ecosystem function is seriously affected in much of the region
Groundwater systems have widely lowered water tables beyond the reach of many dependent ecosystems
Poor water availability for future use
Thresholds or Tipping Points
Thresholds exist between states and are yet to be defined fully.
Specific thresholds relating to the controlling variable also vary across the region.
Regional Threats
Changes to hydrology and environmental flows through excessive damming and extraction
Erosion and sedimentation
Eutrophication
Salinity
Acid sulphate soils
Pollution from point sources (abattoirs, sewerage treatment plants)
Ecosystem fragmentation
Land development (residential, rural residential, intensive agriculture, broad acre farming, pastoral, aquaculture and boating facilities)
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