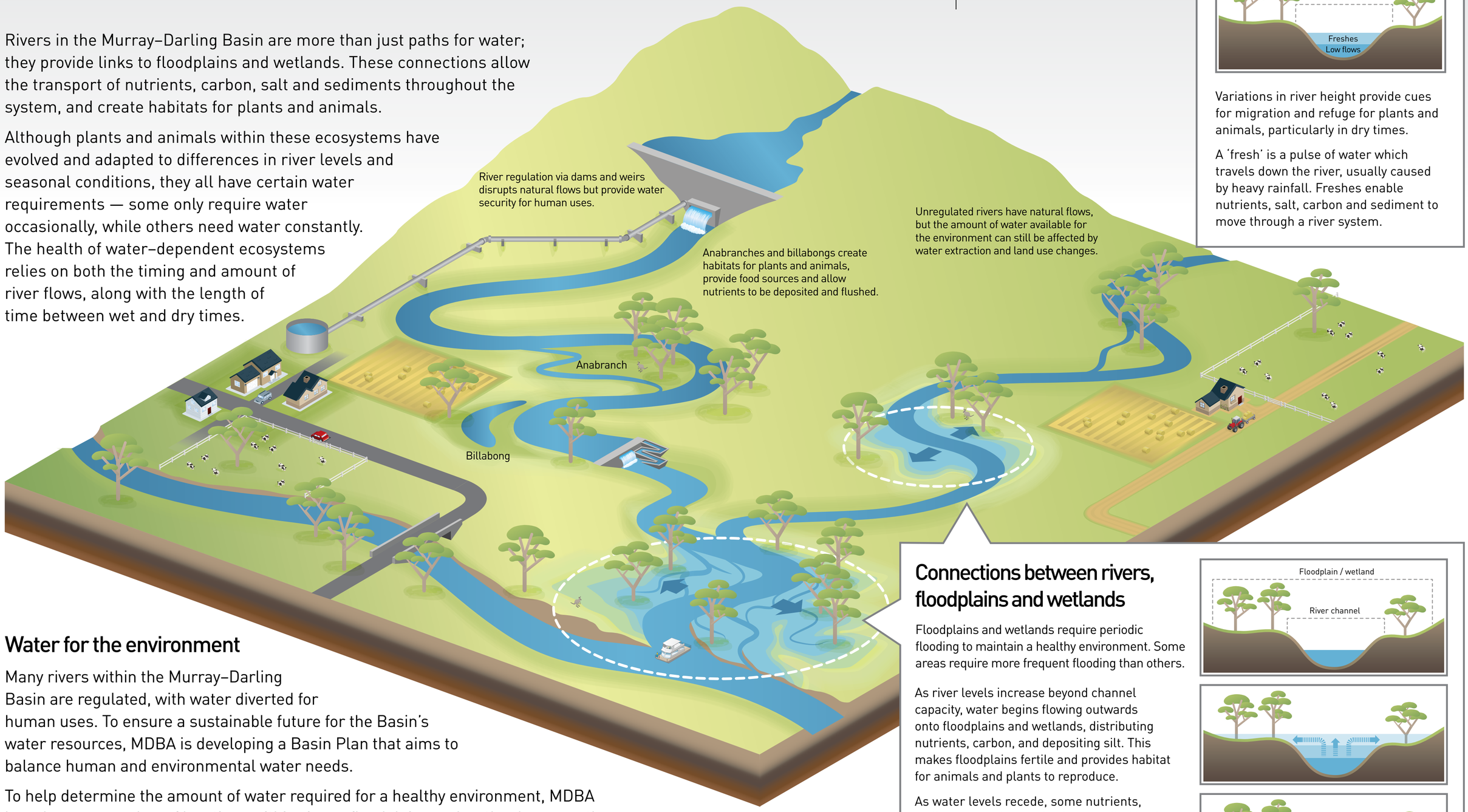
RIVER FLOWS
CONNECTING FLOODPLAINS AND WETLANDS

Australian Government

MURRAY–DARLING BASIN AUTHORITY

Rivers in the Murray–Darling Basin are more than just paths for water; they provide links to floodplains and wetlands. These connections allow the transport of nutrients, carbon, salt and sediments throughout the system, and create habitats for plants and animals.

Although plants and animals within these ecosystems have evolved and adapted to differences in river levels and seasonal conditions, they all have certain water requirements — some only require water occasionally, while others need water constantly. The health of water–dependent ecosystems relies on both the timing and amount of river flows, along with the length of time between wet and dry times.



In–channel flow variation

Variations in river height provide cues for migration and refuge for plants and animals, particularly in dry times.

A 'fresh' is a pulse of water which travels down the river, usually caused by heavy rainfall. Freshes enable nutrients, salt, carbon and sediment to move through a river system.

Water for the environment

Many rivers within the Murray–Darling Basin are regulated, with water diverted for human uses. To ensure a sustainable future for the Basin's water resources, MDBA is developing a Basin Plan that aims to balance human and environmental water needs.

To help determine the amount of water required for a healthy environment, MDBA has chosen a number of locations within rivers, floodplains and wetlands across the Basin. These areas — known as 'hydrologic indicator sites' — have had their water needs assessed. This information is being combined with other data to determine how much water is required to support healthy ecosystems on a sustainable basis.

Connections between rivers, floodplains and wetlands

Floodplains and wetlands require periodic flooding to maintain a healthy environment. Some areas require more frequent flooding than others.

As river levels increase beyond channel capacity, water begins flowing outwards onto floodplains and wetlands, distributing nutrients, carbon, and depositing silt. This makes floodplains fertile and provides habitat for animals and plants to reproduce.

As water levels recede, some nutrients, sediments, carbon and salt are pulled back into the river channel and carried downstream. Many organisms also return to the river.

MDBA publication 37/11