



## Murray-Darling Basin Lesson Packages

<https://www.mdba.gov.au/education/lesson-packages>

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The Murray-Darling Basin Commission has produced a highly engaging and informative series of lesson packages suitable for Stages 4 and 5 Geography. The units provide opportunities for student centred learning, discovery and application of learning in the world using a variety of pedagogical practices.

The units cover geographical concepts: Place, Space, Environment, Interconnection, Scale, Sustainability, Change and the cross-curriculum priorities of Aboriginal and Torres Strait Islander histories and cultures and sustainability. Students will also engage in using technology, critical and creative thinking and complete literacy and numeracy activities.

Topics available are: **Water as a Resource, Environmental Change and Management, Life and Environment.** Each package is clearly structured with outcomes, Australian Curriculum focus, preparation information, and activities to engage students in the topic, opportunities to explore, elaborate on their learning and draw conclusions. The packages include teachers notes on how to use the resource and downloadable activities and case studies.

### Features of the Packages

#### Water as a Resource (suitable for Stage 4: Water in the World)

Year 7 Geography Science


#### Influences on the water cycle



The water cycle operates at different scales in different places, and is strongly influenced by location, temperature and topography. Here students discover how these factors influence the Australian climate and land use.

Year 7 Geography


#### Availability of water



What factors influence water availability in Australia? What are the effects of limited water and what are some of the management options available to us?

Year 7 Geography


#### Water use & distribution



This resource looks at how, despite low and unreliable rainfall, the Murray-Darling Basin has become Australia's most important food and fibre growing region.

Year 7 Geography

#### Water quality



What are the qualities of 'healthy water'? Maintaining the quality of water is crucial for a healthy environment, agriculture, and communities.

Year 7 Geography

#### Water security



This resource explores in greater detail the complexities of managing competing water uses in Australia's climate, with a particular focus on the role of infrastructure.

# WEB RESOURCE: MURRAY-DARLING BASIN

Year 10 Geography

## Caring for River Country



Caring for River Country looks at the ways Aboriginal Australians of the Basin have practiced environmental management both traditionally and in the present day, and how these are shaped by environmental worldviews.

## Caring for River Country (suitable for Stage 5: Environmental Change and Management)

“Aboriginal and Torres Strait Islander students should be warned that the videos and publications used in this resource contain images of deceased persons which may cause sadness or distress.”

### 1. Our river country



### 2. A traditional management strategy






River Country Spirit Ceremony (Murrumbidgee River Country Spirit)

Watch later Share

Watch on YouTube




### Traditional Management Case Studies examples

 <p><b>Brewarrina fish traps</b></p> <p>Located in the Barwon River in north-west New South Wales, the Brewarrina fish traps are one of the oldest human-made structures in the world.</p>	 <p><b>Firestick farming</b></p> <p>Roy Barker, a Murrumbidgee man, explains the way fire was (and is) used to manage country and its role in maintaining healthy soils and vegetation.</p>	 <p><b>Gilgais &amp; water care</b></p> <p>June Barker, an Aboriginal woman from north-western NSW, explains the importance of 'gilgais' from an environmental and cultural point of view.</p>
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### 3 Merging tradition and science

Worksheet question 5: Think: how might it be challenging to create a water management plan that accounts for traditional cultural/ceremonial water uses?

### 4. Follow-up activity ideas

	<h4>Discover local knowledge</h4> <p>Who are the Traditional Owners in your area? Invite an Elder to speak to the class about some of the ways they have traditionally used and managed the environment.</p>
	<h4>What season is it?</h4> <p>The Aboriginal groups throughout the Basin used different seasons to Europeans. Examine <a href="#">an Aboriginal seasonal calendar near your area</a> and discuss: what season are you in now? What actions are associated with this time? Here's <a href="#">an example</a>.</p>
	<h4>Hear a Dreaming story</h4> <p>Dreaming stories play a significant role in Aboriginal life and spirituality. Some of the most celebrated Dreaming stories are those describing <a href="#">how the River Murray came to be</a>, including the Bangarang story and the story of Ponde, the River Creator.</p>

# WEB RESOURCE: MURRAY-DARLING BASIN

Year 4+ HASS Science

### Wetlands and food webs



This resource explores the importance and interconnected environments of wetlands. It covers life cycles and food webs, and introduces the importance of macroinvertebrates in wetland food webs.

## Life and the Environment – Wetlands (suitable for Stage 4: Landscapes and Landforms and Water in the World)

1. What is a wetland
2. What lives in a wetland?

Activity 1: What is naturally found in a wetland?  
Worksheets 1 and 2; wetlands and food webs worksheet.



### 3. Food webs

Activity: Build a food web



### 4. Case Study – Macquarie Marshes



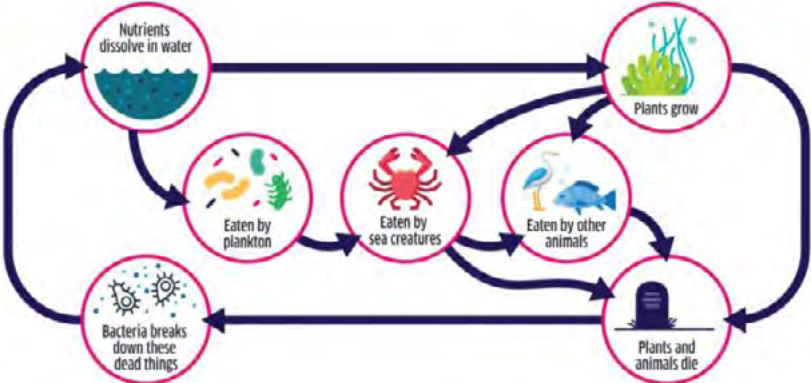
Source: [https://upload.wikimedia.org/wikipedia/commons/f/f9/Macquarie\\_Marshes\\_healthy\\_July\\_2008.jpg](https://upload.wikimedia.org/wikipedia/commons/f/f9/Macquarie_Marshes_healthy_July_2008.jpg)

### 5. Importance of wetlands

#### Filtering water

Algae, animal droppings, sewage, fertilizer and rotting dead plants and animals make nutrients (chemicals like phosphorus and nitrogen). Some nutrients in water is important as food for tiny animals and plants that are themselves food for other things. But too much is a bad thing and can cause water pollution that's harmful to fish, waterbirds and people.

#### Nutrient cycle



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graph TD; A[Nutrients dissolve in water] --> B[Plants grow]; B --> C[Eaten by other animals]; C --> D[Eaten by sea creatures]; D --> E[Eaten by plankton]; E --> F[Bacteria breaks down these dead things]; F --> G[Plants and animals die]; G --> A;
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### 6. Experiments

Activity: Biofiltration in action

