Lesson 2: Indigenous use and management of water resources

Water is necessary for life. This is true for all living creatures, including humans. For human civilizations to grow and thrive, a reliable source of fresh water must be found. In semi-arid (receiving between 250 and 350 mm of rainfall a year) and arid regions (receiving less than 250mm of rain a year) all over the world this can be a challenge to overcome. This is particularly true for Australians, living in the world's driest inhabited continent.

Aboriginal and Torres Strait Islander peoples have developed complex relationships with the scarce water resources of Australia over tens of thousands of years. For these peoples, water is more than a resource to be used for survival.

Read the following statements to help you understand some of the relationships between First Nation Australians and water:

> *"Water is a living being and should be treated accordingly. Many of our ancestral beings are created by and live in water."*[1]
>
> *"For First People, water is a sacred source of life. The natural flow of water sustains aquatic ecosystems that are central to our spirituality, our social and cultural economy and wellbeing. The rivers are the veins of Country, carrying water to sustain all parts of our sacred landscape. The wetlands are the kidneys, filtering the water as it passes through the land. First Nations Peoples have rights and a moral obligation to care for water under their law and customs. These obligations connect across communities and language groups, extending to downstream communities, throughout catchments and over connected aquifer and groundwater systems."*[2]
>
> *"We have a holistic approach to water. For this water is a source of healing when we are sick, and it provides us with many spiritual and cultural interests. It is our lifeblood, which we need to survive. It allows us to continue our ceremonies, which incorporate our rich and unique culture that is still strong today. It is these sources of water that provide an adequate and valuable food source rich in fish and other foods for my people."*[3]

[1]MLDRIN (Murray Lower Darling Rivers Indigenous Nations) (2010). Echuca declaration, MLDRIN, Melbourne.

[2]MLDRIN, NBAN & NAILSMA (Murray Lower Darling Rivers Indigenous Nations, Northern Basin Aboriginal Nations & North Australian Indigenous Land and Sea Management Alliance) (2018). A pathway to cultural flows in Australia, report prepared by Nelson R, Godden L & Lindsay B, National Cultural Flows Research Project, Australia.

[3] Gibbs, L. M. (2010). "A beautiful soaking rain": Environmental value and water beyond Eurocentrism. Environment and Planning D: Society and Space, 28, 363–378.

Task 1

Read the statements about the connections between First Nations peoples and water. Create a photo essay poster for your classroom wall that summarises some of these connections. A photo essay relies on images, rather than words, to communicate a message. You may like to use this image as a framework for your poster:

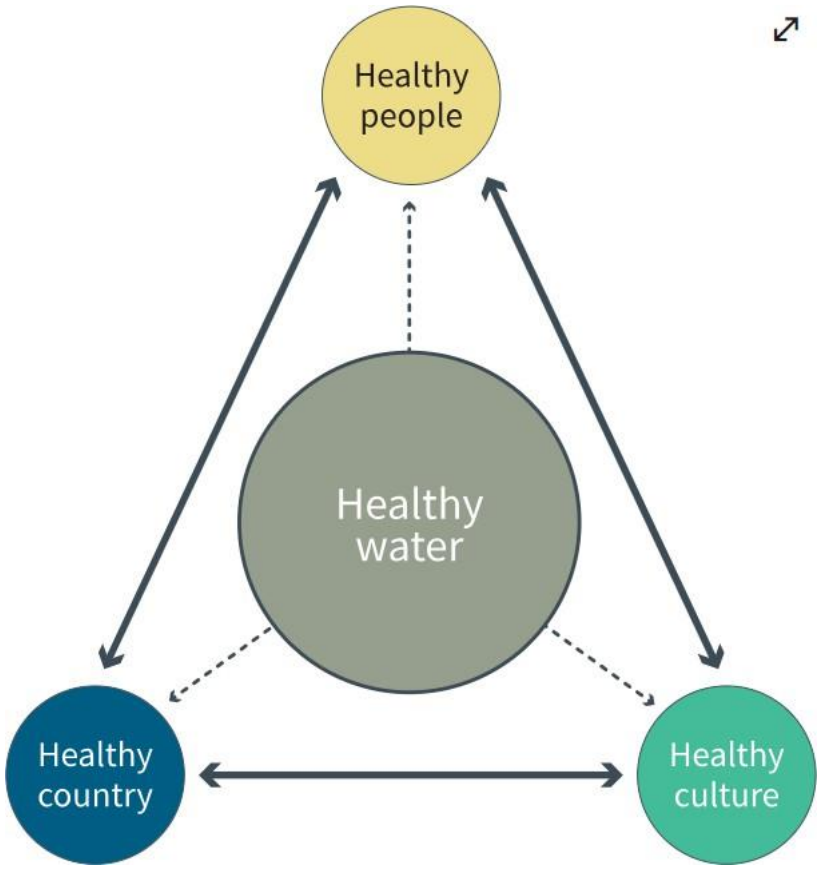

Figure 1. Australian First Nations people's view of the relationship between water, Country, culture and people. Source: Moggridge B (2010). Aboriginal water knowledge and connections. In: Water and its interdependencies in the Australian economy, Australian Academy of Technological Sciences and Engineering, Melbourne.

Use these statements to explain why First Nations peoples feel that it is vital to look after water resources in Australia.

Wimmera River (Barringgi Gadyin)

One of the key water resources of the Wimmera region is the Wimmera River itself. The following map shows the main rivers and streams of the region with the Wimmera River shaded green, purple and yellow.

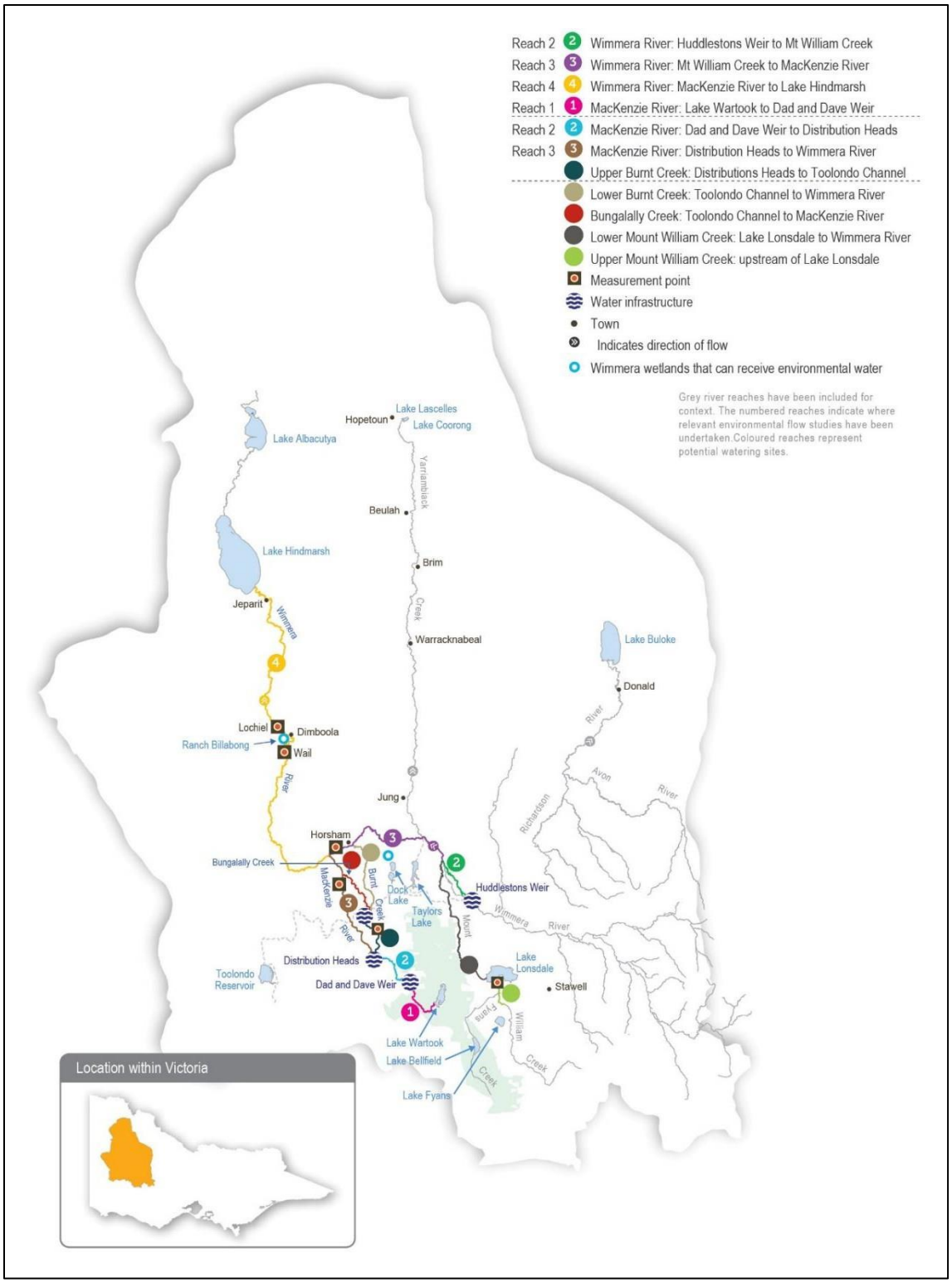

Figure 2. Rivers and streams of the Wimmera.

Source: [© Victorian Environmental Water Holder.]

Task 2

Follow the Wimmera River from its tributaries in the southeast of the map to its end.

1. In which direction does the river flow?

2. What are some of the towns that are located beside the river?

3. Which other rivers flow into the Wimmera?

4. Most of the world's rivers flow eventually to the sea but the Wimmera River does not (this is known as an endorheic river system). Why do you think the river does not reach a larger river such as Murray River or the sea?

Task 3

River Yarns: Exploring the Cultural Heritage of the Wimmera River

A Story Map uses GIS (Geographic Information Systems) maps along with videos, images and words to tell a digital story. You can create your own but in this activity you will use the one created at to explore some of the connections between the Wimmera River and First Nation Australians.

1. Open the story map and watch the introductory video. The tree in this video has a large scar on its trunk. What or who do you think created this scar? Use this link for a clue.

2. When you have completed this activity, scroll down to the next page in the Story Map. This can be done using the dots on the left-hand side of the screen. This page contains a map of the region along with icons showing the locations of the places you will visit on this digital tour. You may like to refer to this page later.

3. The next page focuses on the Yanga Track below the Horsham Weir. There is an interesting video on this page that explains how earth ovens were constructed and used to prepare food.
    a. List the natural resources that have been used to create the earth oven.

    b. What foods were prepared in this oven?

4. Scroll down to the Horseshoe Bend page.
    a. Zoom in and out of the map to describe the location of Horseshoe Bend in relation to other features of the landscape.
    b. This is one of the most significant places in Australia, largely because of something that occurred there in December 2005. What was this event and why was it so significant? This link may help.

5. The next two pages describe the significance of The Ranch and The Common near Dimboola. These places will be explored in more detail in the next lesson, but you may like to read about them as you pass by.
6. Scroll down to the Pink Lake page and open the hyperlink that outlines the joint venture between the Barengi Gadjin Land Council and Mt Zero Olives.
    a. Explain why the lake is pink.

    b. Is the harvesting of the salt an example of using a renewable or non-renewable resource? Give some reasons for your answer.

7. Visit the Gurru (Lake Hindmarsh) and Ngalukgutya (Lake Albacutya) pages.
   a. What evidence is there that these lakes were important places for First Nation peoples in the past?

   b. Visit this site about Hindmarsh Lake Reserve and this site about Lake Albacutya Park to learn more about these special places and to add any more information to your answer to the previous question.
   c. Use the most recent image of these lakes on Google Earth to explore the water levels.
   d. Zoom in and explore the place where the Wimmera River enters Lake Hindmarsh. Use the Street View function (click and hold the Pegman icon in the top right-hand corner of the screen and then drag him onto any blue line) to compare the amount of water entering the lake to the amount exiting the lake at the northern tip (through Outlet Creek). What do you notice about the differences in water levels at these two points?

   e. Follow Outlet Creek from the northern tip of Lake Hindmarsh to the place where it enters Lake Albacutya. How much water is flowing along this stream into the lake? How can you tell?