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# Water use & distribution

**Watch the video *Food production in the Murray-Darling Basin*. Then answer the following questions:**

1. List some of the challenges with producing food & fibre in the Murray-Basin.

2. What are at least five things produced in the Basin?

3. How many farms are in the Basin?

4. How much money do they generate for Australia's economy?

5. How much water does it take to produce one modest meal 365 days a year?

6. What are some structures required for irrigation?



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7. Draw a bubble diagram, where the size of the circles represents how you think water is distributed in the Basin. One circle is for agriculture, one is for the environment and the other is for domestic use by people.

8. Investigate the Australian Bureau of Statistics data on Australia's water use and distribution (2013-14).  
<http://www.abs.gov.au/AUSSTATS/abs@.nsf/Previousproducts/4610.0Main%20Features22013-14>

Using the graphs on the web page, answer the following questions:

- a) Which state is the biggest water user?
- b) Which sector uses the most water?
- c) Which sector is paying the most for the water used?
- d) Which state's agricultural use is highest?
- e) What can be said about the area of irrigated land over the period 1920 to 2006?



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9. Investigate the Australian Bureau of Statistics data: water use on Australian farms (2013-14).

<http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4618.0Main+Features12013-14>

*NB. Keep this page open after the activity.*

Find out:

- a) How much water was applied in Australia for agriculture over the year?
  - b) How much of this was in the Murray-Darling Basin?
  - c) What percentage is that of the total?
  - d) What percentage of all agricultural water use in the Basin was for irrigation?
10. Does your analysis provide a different picture from your bubble diagram? If so, how?

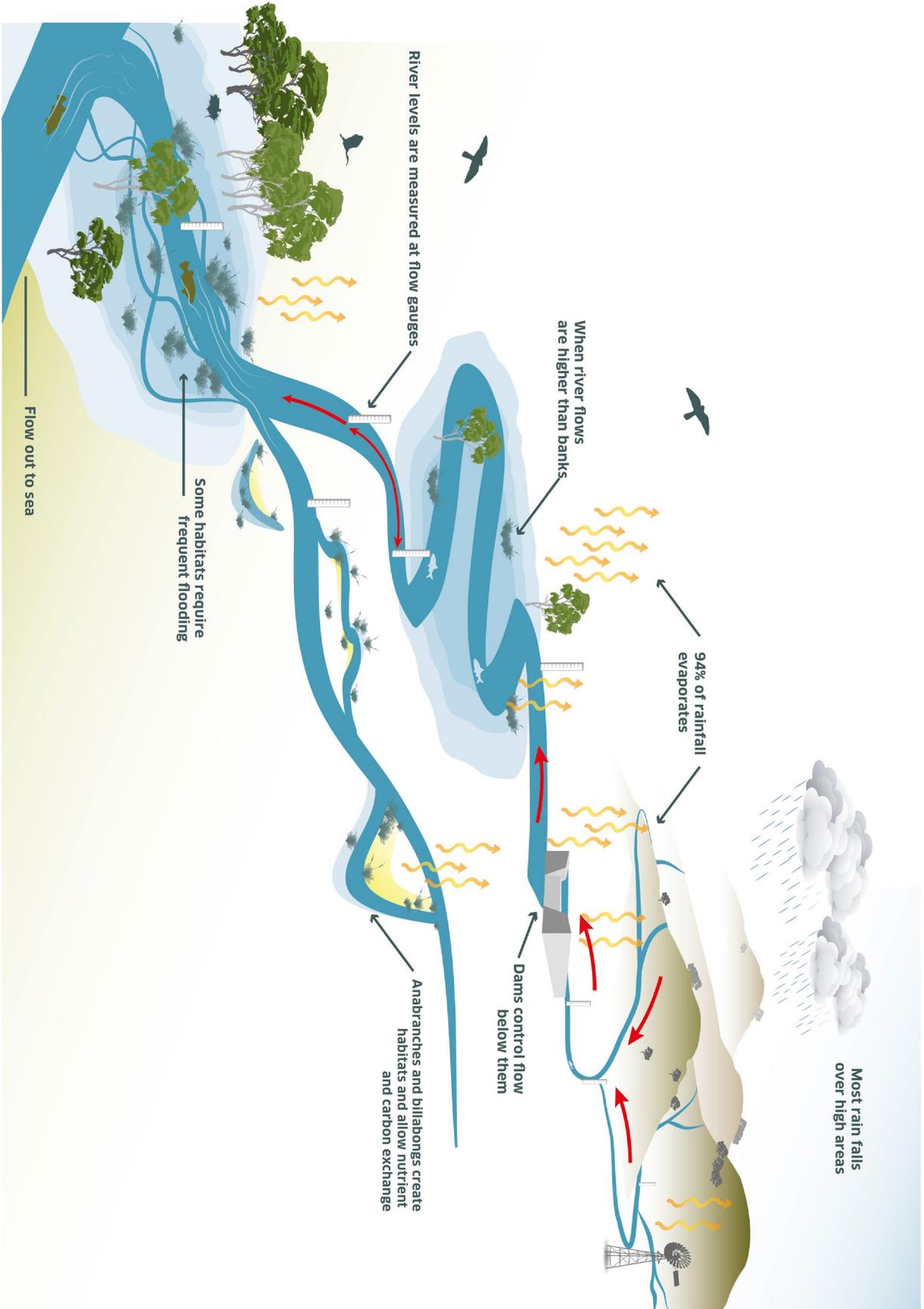
11. After viewing the diagram on the next page, write a short explanation of whether you think the Basin's water use is sustainable every year, and why.

*NB. You will need to convert ABS data in Megalitres to Gigalitres (by dividing ML by 1000).*



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12. The Murray-Darling Basin has lots of dams. Together, they can hold 34,000 GL of water. This doesn't count the farm dams. Thinking about the annual average inflow in the diagram above, how much of this inflow can be captured in the dams?

13. In 2013-14, the Murray-Darling Basin inflow was 5670 GL. Go back to the ABS water use on Australian farms (2013-14) webpage and find the total agricultural water use for the Basin.

a) What do you notice?

b) Predict how this could happen:

c) Look at the 'Sources of agricultural water' graph. Where are other major agricultural sources of water coming from, other than 'inflows to rivers, creeks and lakes'?

14. Go to the MDBA's website [www.mdba.gov.au](http://www.mdba.gov.au) and research groundwater. What is the problem with relying on this water source?

15. Given all that you have learned above, what do you think about water availability and potential issues for things other than industrial, agricultural and town use (e.g. the environment, recreation)?