

SPATIAL CONNECT

Place and liveability in Ballarat – Historic Urban Landscapes (HUL)

Answers

How liveable is Ballarat?

Getting started

1. Which category folder contains the *Corner shops* layer?

'Points of interest' within the 'Historic Landscape' category.

2. Who is the owner of this data layer? Hint: Click on the  icon for information about the layer.

City of Ballarat; National Trust of Australia (Victoria). Ballarat Branch.

3. Turn on the *Corner shops* layer and turn on query mode if it isn't already on. Click on three corner shops and write down their addresses.

For example:

701 Barkly Street South, Mount Pleasant

602 Darling Street, Redan

12 Chisholm Street, Soldiers Hill

Navigating the map

4. Zoom into Lake Wendouree in the centre of Ballarat.

a) What are the latitude and longitude coordinates of the centre of the lake?

143.8337°E 37.5495°S

b) Using the linear scale, estimate the width of the lake from east to west.

Approximately 1500m.

c) Turn on the *Imagery* or *ESRI Imagery* map views. What landform does this view reveal in the middle of the lake?

An island.

d) Zoom into the banks of the lake. Move around the parkland surrounding the lake. In a table, record some of the features you can see and their locations. Examples of features might include boat ramps, barbeques and parkland.

For example:

Feature	Location
Boat Ramp	143.8437°E 37.5525°S
Park	143.8413°E 37.5531°S
Car park	143.8304°E 37.5558°S

- e) Read more about Lake Wendouree [here](#).
- f) List three reasons why Lake Wendouree is an important attraction for local residents.

For example:

1. A walking and running track
2. Rowing and canoeing
3. Fishing of rainbow trout.

Using the toolbar

5. Rank the land uses from the one covering the largest area to the one covering the least based on your estimations.

Answers may vary due to estimations.

1. Farm
 2. Residential
 3. Commercial
6. Measure and record the perimeter and area of Lake Burrumbeet using the distance and polygon tools.

Perimeter: Approximately 24.75km

Area: Approximately 2269 Ha

Characteristics of place

7. List three Local Government Areas surrounding Ballarat.
1. Pyrenees
 2. Moorabool
 3. Golden Plains
8. Estimate the length and width of Ballarat using the map scale in the bottom left corner.

Estimations will vary.

Length: 50km Width: 30km

9. Use the distance tool to calculate the length and width of Ballarat LGA.

Answers will vary based on where measurements are taken from.

Length: 40.73km Width: 29.26km

10. Use the polygon tool to trace around Ballarat and calculate its area (figure 4).

Approximately 73946 Ha

11. Describe how land use change changed over time between 1985–1990 and 2010–2015. Consider which parts of the study area have changed and the types of changes that have occurred. This might include things like the expansion of the urban area or residential areas being built where there used to be farmland.

Ballarat's urban centre has sprawled outwards in all directions into surrounding farmland between 1985 and 2015. This is shown on the map by an increase in the purple area in all directions. Industrial areas have also increased both in size and quantity. New industrial areas, shown in black, have been created on the outskirts of the city while existing areas have increased in size. Both of these increases has caused a reduction in farmland surrounding the urban area.

12. Using the *Imagery* layers within the *Spatial patterns and built landscape* category, try to find at least two places that have changed in and around Ballarat's city centre since the 1860s. Changes might include places where houses and other buildings have been built where there used to be farmland or places where new roads have been built. Record the location of these places that have changed using the latitude and longitude coordinates.

For example:

- High density residential development has occurred to the west of Lake Wendouree.
- An industrial precinct has been built at 143.81°E 37.53°S where there was farmland in 1933.

13. Using the *Contours_10m* layer, state whether you think Ballarat's landscape is hilly or flat. In your answer, refer to specific regions that stand out as being particularly steep or flat.

Most of the urban part of Ballarat is relatively flat, as is the surrounding farmland. There is a steep, mountainous region to the east of the study area which includes Glen Park State Forest.

Assessing liveability: environmental factors

14. Which parts of Ballarat contain a large amount of tree cover? Using the legend, decide whether this tree density mostly scattered, medium or dense.

Most of the study area does not contain tree cover. However, there is a large band of trees towards the eastern boundary of the study area. This is mainly dense coverage with some smaller pockets of medium density and scattered.

15. Using a table, list the geographic characteristics of three rural and urban areas using the photos and information from the Area Description PDFs. Examples of characteristics include native trees, farmland, houses and fences.

For example:

Mount Clear Goldfields	Learmonth Pastoral	Ballarat Central
Plantation forests	Large areas of pasture	Residential areas
Water treatment lakes	Remnant dry stone wall	Drainage channels
Yarrowee Creek	Historic township	Treed avenues
	Wind turbines	Large open spaces

16. Mullawallah Wetlands (formerly Winter Swamp)

a) Locate Mullawallah Wetlands on your map, west-north-west of Lake Wendouree. Note: On your map it will be called Winter Swamp.

b) Approximately how far is Mullawallah Wetlands from the centre of Ballarat?

5.6km

c) Using the panoramic photo, list some of the natural features of Mullawallah Wetlands.

- Large eucalypt trees
- Large waterbody surrounded by thick grasses
- Mixture of many species of grasses and shrubs

d) What are some of the benefits of having a place like this so close to the centre of Ballarat?

- Passive recreation
- Habitat
- Tourism

Assessing liveability: social factors

17. The *Community Services and Infrastructure* category contains layers relating to the recreational features of Ballarat.

a) Describe how one of the features of this category is arranged spatially on the map.

Barbeques are scattered around the outskirts of the Ballarat's urban area. In four cases there are multiple barbeques close together.

b) Why do you think this feature is arranged in this way?

Barbeques are located in parkland. Larger parks are found on the outskirts of the city where there is more room available.

c) The *Ecology* category, *Ballarat Trees* layer shows a dense coverage of trees in Ballarat's urban centre. List some of the benefits that tree coverage might have in a city environment.

- Social benefits of creating more green space.
- Reducing the Urban Heat Island effect.
- Habitat for local bird species.

18. Hazards such as bushfires have a social impact on the liveability of places.

a) What does the *Fire History – Last burnt* layer show?

The spatial extend of the last fires recorded, primarily on public land. It is current to the 2011/12 fire season.

b) When were some of the most recent fires in and around Ballarat and what types of fire were they?

2008 Fuel Reduction burn in the southeast

2012 Fuel Reduction burn in the northeast

1997 Bushfire in the northeast

c) Do you think Ballarat is vulnerable to bushfires? How is the risk similar or different to other places such as Daylesford? Hint: Zoom out and find Daylesford on the map and investigate when the most recent bushfires occurred.

Ballarat doesn't seem vulnerable based on the fact that a bushfire hasn't come close to the urban area since 1939. Daylesford seems more vulnerable as it was damaged by bushfires as recently as 1962. The increasing amount of planned burns occurring near Daylesford indicates that it might be a particularly vulnerable area.

19. Access to efficient public and personal transport is a common criteria when assessing liveability.

a) Are bus shelters and bicycle racks located in similar parts of Ballarat?

Bicycle racks are located in one large cluster in the centre of Ballarat whereas bus shelters are spread out over the entire city. Many of the bus shelters are arranged in a linear pattern, following the direction of major roads.

b) Are most residential areas near a bus route or bus shelter?

Most are although there are some pockets which are quite far, especially towards the outskirts of the city.

c) Using the Hybrid map view, name a residential street which is not near a bus shelter or the bus route and measure how far away it is using the scale or measuring tool.

Answers will vary significantly and should include a street name and a distance of more than 700 metres.

20. To what extent do you think Ballarat's history impacts liveability for local residents? Provide reasons for your answer, referring to different aspects of Ballarat's history shown on the HUL Ballarat website.

Students are expected to begin this response by stating their contention. Then they refer to specific examples of Ballarat's history and discuss how they might affect liveability in Ballarat in a positive or negative way.

Conclusion

21. Where in Ballarat would you prefer to live based on the environmental and social factors you have investigated?

Students are expected to name a specific place or region within Ballarat and justify their decision by discussing various environmental and social factors. These might include a place that is close to recreational facilities such as sports grounds, a location in the centre of Ballarat that is close to shops and restaurants or a location on the outskirts that has significant natural environment features such as a wetland or forest.

22. Are there any parts of Ballarat in which you wouldn't live? Why?

Students are expected to name a specific place or region within Ballarat and justify their decision by discussing various environmental and social factors. These might include a place that is far from the centre of Ballarat, lacking transport infrastructure or lacking tree cover.

23. Using information gathered throughout this investigation, write a conclusion summarising the extent to which you think Ballarat is a liveable city. Include:

- a summary of Ballarat's geographic characteristics and a discussion of how they affect liveability
- a summary of the influence of environmental and social factors in assessing liveability including reference to specific data layers.

This answer should be written in paragraph form. A suggested structure is:

- a statement of the degree of liveability
- a discussion of how Ballarat's characteristics influence liveability with specific examples provided. Examples might include historic features and lots of open space
- a discussion of environmental factors such as trees, wetlands and lakes and how they impact liveability
- a discussion of social factors such as vulnerability to bushfires and access to public transport
- a concluding statement.

24. Are there any types of data that would affect liveability that haven't been covered in this investigation? How might this data be collected?

Students should list these types of data and where they might be collected or summarise their ideas in a table. Ideas might include house prices, cost of living, employment figures, opportunities for young people, available entertainment and future prospects.