

THE YEAR 7 FIELDTRIP REPORT

FIELDTRIP REPORT

INQUIRY QUESTION

How do human interventions at Glenmaggie Weir and Heyfield Wetlands help manage water use in the Macalister Irrigation District? _____

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Introduction

The Year 7 field trip took place on the 10th of June 2025. Students travelled to conduct exploratory research at two sites: Heyfield Wetlands and Glenmaggie Weir. Both locations are in Eastern Victoria, within Wellington Shire, and are part of the Macalister Irrigation District.

Heyfield Wetlands is located approximately 1.4 km from the town centre of Heyfield, while Glenmaggie Weir is about 10 km north of Heyfield. The distance between the two locations is approximately 11.5 km.

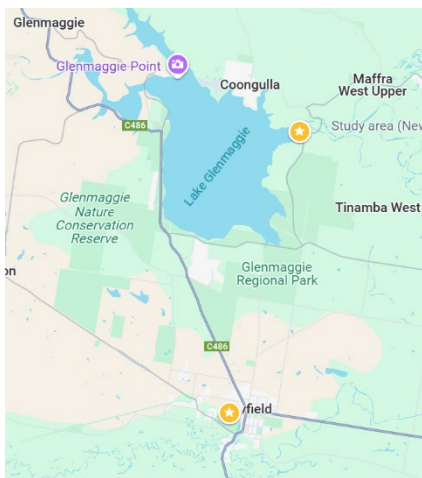


Figure 1: Map of local area

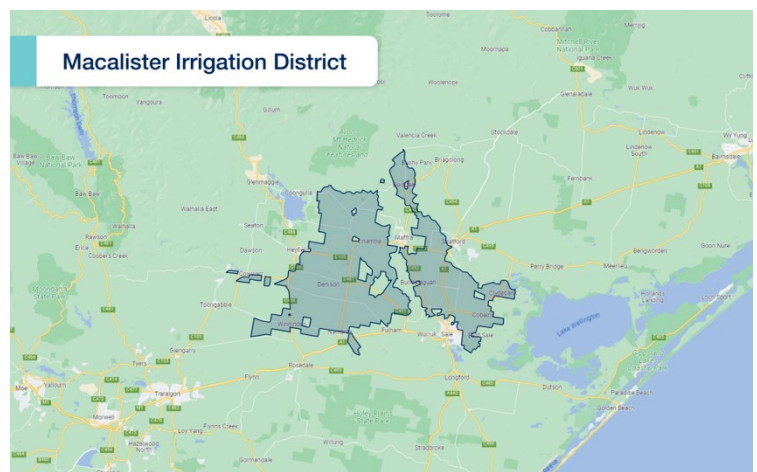


Figure 2: Map of Macalister Irrigation District

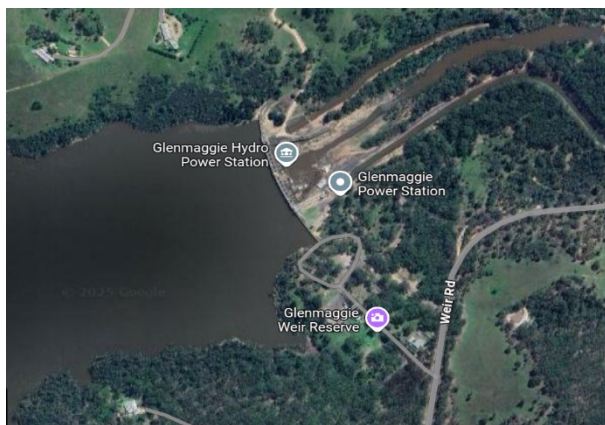


Figure 3: Map of Glenmaggie Weir

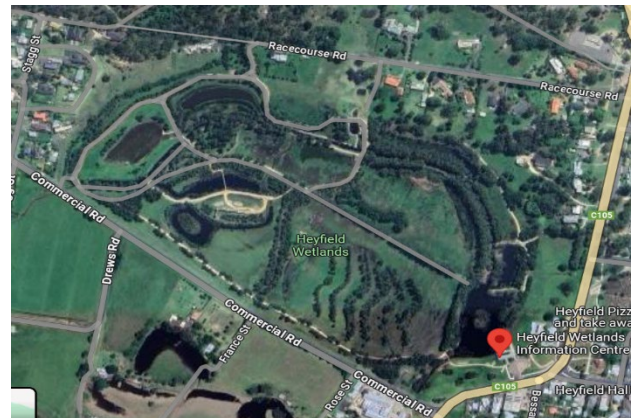


Figure 4: Map of Heyfield Wetlands

The purpose of the visit was to foster students' understanding of how water is managed in the region. The inquiry question was: **“How do human interventions in Heyfield Wetlands and Glenmaggie Weir help support water management in the Macalister Irrigation District?”** This question explores whether human activities—such as recreation and technologies like dams, irrigation channels, and weirs—help or hinder the environment.

Exploratory research began around 10:00 am when students arrived at their allocated sites. At both locations, students were given sufficient time to collect enough data to complete their worksheets.

Research at Heyfield Wetlands started at 10:30 am and finished around 12:00 pm. Later, at 12:30 pm, students began research at Glenmaggie Weir and returned to school around 2:00 pm.



Figure 5: Students were given the privilege to have volunteers from Heyfield Wetland, prepare a presentation to provide more insights for their research.



Figure 6: Heyfield wetland staff providing map and directions to help students.

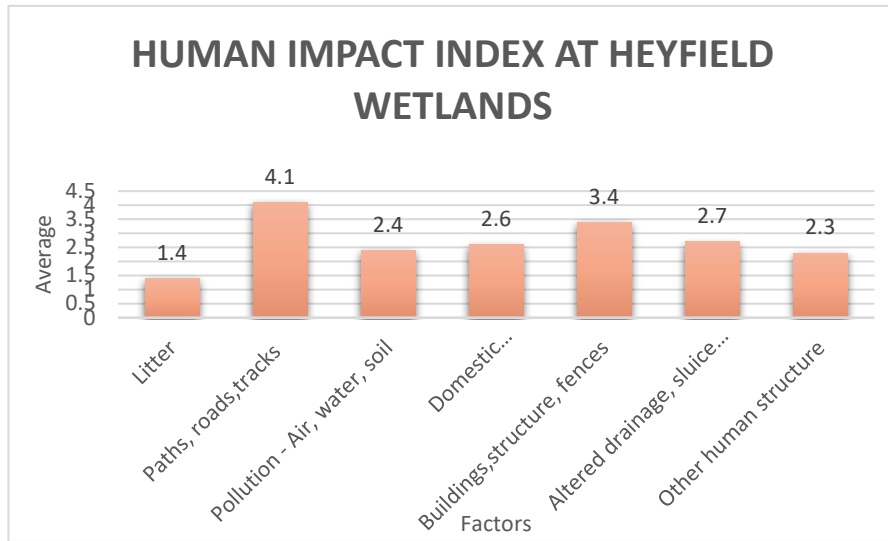


Figure 7: A guided tour by a Southern Rural Water staff member. At Glenmaggie weir students had a guided tour by a Southern Rural Water staff member inside the weir—to examine the structure and the function of the weir.



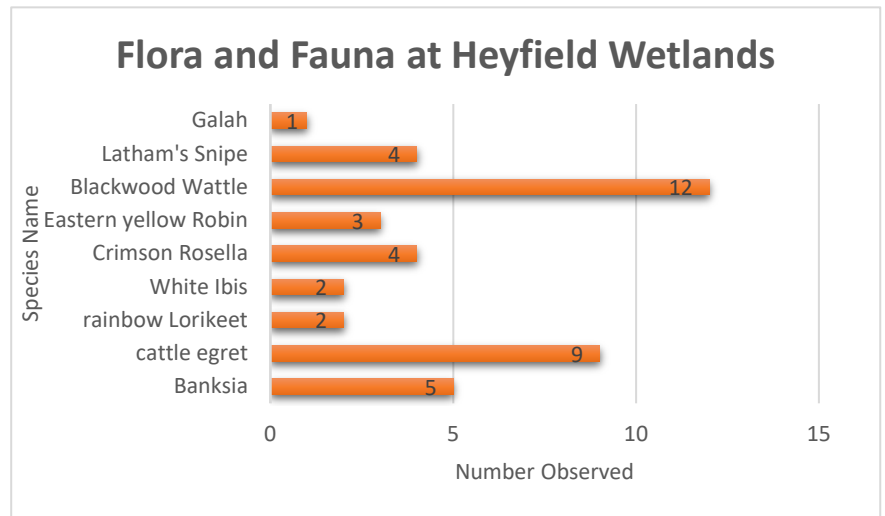
Figure 8: The inside of the Glenmaggie Weir where staff monitor and operate the floodgates.

Presenting data collected at Heyfield Wetland and Glenmaggie Weir.



Students were encouraged to explore Heyfield Wetlands to analyse the human impact on the site. Several factors are shown in the graph, with the average values based on observations made at Heyfield Wetland.

Students were also asked to list all the plants and animals they observed at the location. The graph determines the class average of the number of species observed at the site.



Students were prompt to use their observation to complete a sketch of the Glenmaggie weir, assisting it with annotations.

Figure 9: Sketch of Glenmaggie

The data collected from both Heyfield Wetland and Glen Maggie Weir illustrates the human intervention. For example, the graph that shows “Human Impact Analysis”, reveals how humans effected the physical environment with all these, man-made infrastructure. In Heyfield wetlands there are several factors that are presented and these are: paths, road, fences, altered drainage, etc. This infrastructure creates an environment allowing inhabitation. For instance, the graph created by the student demonstrates the vast variety of bird species and native plants, that all live in Heyfield wetland and use it as a refuge.



Figure 10: Viewing platform



Figure 11: Ducks



Figure 12: Pond



Figure 14: Students sketch



Figure 15: Visual observation

Students, were determined to draw a sketch by representing a visual observation of the site. This helped the student to capture their observation and to understand the structure more clearly. A lot of Infrastructure has been built to construct Glenmaggie weir. As shown in the sketch, the Glenmaggie weir is like a long large barrier that stores and hold back water. The weir is also surrounded with fences, and it's there for multiple reason and these are: to prevent any trespassers, an indication of out of bound, and an acting protection for visitors. Moreover, irrigational channels are also included in the infrastructure. These channels indicates that water from Glenmaggie Weir is being directed to support agriculture in Macalister Irrigation District.

Analysis

The data collected from Heyfield Wetlands and Glenmaggie Weir show clear interconnections between the two locations. The data also reveals that human interventions such as weirs and irrigation channels help manage the water supply for agriculture while also providing enough water for other environmental uses. This balance is essential for maintaining water availability.

Regarding sustainability, the data shows that human interventions, like the weir and irrigation channels, help manage water supply for agriculture but also impact natural ecosystems. Observations also show that data changes over time, reflecting shifts in water quality and species that may result from seasonal changes or human activities. Moreover, both locations hold significant social and economic importance. Glenmaggie Weir supports irrigation, boosting local farming economies, while Heyfield Wetlands provide environmental benefits such as habitat for wildlife and recreational opportunities for the community.

Additionally, according to a Southern Rural Water staff member explained that Glenmaggie Weir plays an important role and serves multiple purposes, including water storage for drinking, irrigation, industrial use, flood control, and hydroelectric power generation. People in the region, especially farmers, rely on the water provided by Glenmaggie Weir. The weir helps manage water supply for agriculture while also ensuring enough water remains for environmental uses.



Figure 16: Water stored by the dam



Figure 17: Glenmaggie weir dam structure.

In addition, Glenmaggie Weir acts as a valve during floods, with the ability to control and reduce flood damage in the region. However, if the weir is already full, there is a high risk of spillways causing flooding. Floodgates must open to let water through, but sometimes the pressure can overwhelm the gates, preventing water from being released quickly enough, which may cause flooding downstream.

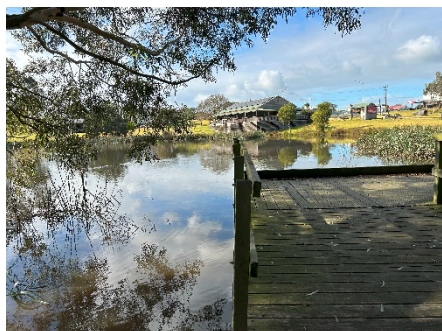


Figure 18: One of the flood absorbing ponds.



Figure 19: Another flood absorbing pond at Heyfield Wetland

If this occurs, Heyfield Wetland help limit the danger the flood brings. The wetland acts like a sponge, absorbing excess water and helping to regulate water flow.

Final thoughts

The Glenmaggie Weir plays a significant role in managing water for the region—supporting agriculture, supplying communities, and reducing flood impacts. While it helps control floodwaters, it has limits, especially when water levels are already high. Natural systems like Heyfield Wetlands provide valuable support by absorbing excess water and easing pressure on the weir. Together, man-made construction and natural cooperates to balance water management and protect downstream communities.



Figure 20: Heyfield wetlands



Figure 21: Glenmaggie weir



Figure 22: Irrigation system in Macalister Irrigational District

Bibliography

Information from:

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<https://www.srw.com.au/water-and-storage/water-storages/lake-glenmaggie>

Photos

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Figure 21: <https://www.middleofeverywhere.themiddleofeverywhere.com.au/en/profiles/glenmaggie-weir-reserve>

Figure 22: <https://wgcm.vic.gov.au/what-we-do/sustainable-irrigation-in-west-gippsland/>

All photo from figure 1-19 were provided by the teacher.