

Lesson: Waterweed Wipeout

education@MDBA

EXPLANATION/EXPLORATION

Summary:

This lesson engages students by using an augmented reality App – *Waterweed Wipeout* (free from the iTunes store or Google Play) – to bring the concepts to life. Students discover by doing: playing a mini game as ‘managers’ of Lake Mulwala in NSW and reading a provided factsheet (containing the game marker). They then complete a worksheet to embed what they have learned.

Lesson focus:

Students learn that unwanted alien aquarium plants can infest Australian waterways. They discover that this affects water quality, native plants and animals, tourism and therefore local economies. Active management can include deliberate raising and lowering of water levels by opening and closing weirs. This action must be carefully timed to not only have the maximum effect on the target weed, but also to minimise impact on tourists, businesses and farmers who depend on the water.

Content descriptions:

Year 5–6

ACSHE083 – Scientific knowledge is used to solve problems and inform personal and community decisions. (Science – Use and influence of science)

ACHASSK113 – The environmental and human influences on the location and characteristics of a place and the management of spaces within them (HASS – Geography)

ACTDIP016 – Acquire, store and validate different types of data, and use a range of software to interpret and visualise data to create information (Digital Technologies)

ACSSU094 – The growth and survival of living things are affected by physical conditions of their environment (Science understanding – Biological Sciences).

Year 7–8

ACSHE120 – Solutions to contemporary issues that are found using science and technology, may impact on other areas of society and may involve ethical considerations (Science as a Human Endeavour – Use and influence of science)

ACHGK042 – Causes, impacts and responses to an atmospheric or hydrological hazard (HASS Knowledge & Understanding – Water in the world).

Preparation:

Print sufficient copies of the *WaterweedWipeout_App factsheet* (available in the teacher supplement on our website <https://www.mdba.gov.au/publications/mdba-reports/waterweed-wipeout-teacher-supplement>) for each student or pair of students.

Print the *Worksheet: Waterweed Wipeout* for each student (also in the teacher supplement).

Download the *Waterweed Wipeout* App from either the iTunes App Store or Google Play (to sufficient devices for the students to share).

Register to the Atlas of Living Australia (<http://www.ala.org.au/>), if completing extension activity.

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Equipment:

Computer and printer, Individual class iPads or Android devices.

Lesson steps:

1. **EXPLAIN** that the river valley the class will be investigating was home to the Pangerang Tribe for thousands of years before the last member died around 1888. The Pangerang were part of the larger Yorta Yorta Nation. Today it is 'Border Country: shared by the Yorta Yorta and the Waywurru people, who are still actively engaged in current management and use of the area.
2. **EXPLAIN** that they will investigate an environmental issue at Lake Mulwala, a man-made reservoir created by the construction of the Yarrawonga Weir across the River Murray in the 1930s. Lake Mulwala is located between the towns of Bundalong and Yarrawonga and straddles NSW and Victoria (the river forms the border between the states). Mulwala is built on sand hills which are known Aboriginal ancestral burial grounds.
3. Ask students to **INVESTIGATE** using Google maps to label the map on their worksheet.
4. Next, divide students into two groups. Have half of the students (in small groups) [research Lake Mulwala](#) (see 'Things to do') and the other half research plants and animals that live there using the [Atlas of Living Australia](#) (search for Lake Mulwala).
5. As they research, they complete either question 2 or 3 on the worksheet.
6. Each group shares their research with the class (and thus students fill out the answer to the question they did not investigate).
7. Ask students to **PREDICT** the sorts of businesses and industries that would occur around the lake and in nearby towns; and what their business is based on or needs to happen to survive. They complete point 4 on the worksheet.
8. **DISCUSS** and **DEFINE** alien weeds: students may know that they are not native to Australia; and/or have invasive properties (grow fast/easily, out-compete native plants and so take over).
9. **DISPLAY** and **DISCUSS** the Egeria page of the Atlas (search for Egeria densa/ click on the species name).
10. Students then **READ** the *Waterweed Wipeout* factsheet.
11. **ASK** how students think this weed got into the lake? (Answer: it's an aquarium species and was dumped by people). Students then turn their worksheet over, read the information on *Egeria densa*, and answer questions 6 and 7 on their worksheet.
12. Students next **EXPLORE** using the App before completing the final two questions.

Assessment: Collect student worksheets.

Extension/excursion:

If near a water body containing Egeria, you could visit and record your sightings to the Atlas.

Teacher resources:

Guides for using the Atlas: <http://www.ala.org.au/education-resources/> (scroll down the page).

Lake Mulwala research link: <http://www.yarrawongamulwala.com.au/>

[Goulburn-Murray Water Lake Mulwala management plan](#): available via their website.