

River Detectives is a cross curricular citizen-science program connecting young people with their local waterway. Through water quality testing, macroinvertebrate sampling and habitat surveys students learn about the importance of catchment health. The website provides access to a wide variety of engaging resources inspiring teachers to embed River Detectives in school and community life.

Since 2016 the program has been available to school and youth groups in five catchment management authority regions across the state.

In the Melbourne region, Urszula Faulkner is the Science Faculty Learning Leader at Mount Lilydale Mercy College, which is a Catholic co-educational secondary College located in Melbourne's outer east that was founded by the Sisters of Mercy in 1896.

The school has a sustainability focus;

"We are a ResourceSmart school. We have solar panels, we track our electricity and water usage. We also have an agriculture/horticulture program that looks at sustainable farming. I had heard of Waterwatch and was interested in having real life data to use with students. The River Detectives program fits well within the Year 7 and Year 10 science curriculum."

The school has been involved in the River Detectives program since 2017 adopting a site on Olinda Creek. The Creek goes through the suburb of Lilydale and is beside the town oval and train station. It's flows fluctuate due to stormwater inputs.

"All Year 7 students participate in the program completing one water quality test and one waterbug sampling activity in term 3. Macroinvertebrate sampling provides opportunities to learn the classification of species and use a key to identify bugs. During their Ecosystems unit, students participate in an excursion with five activity stations. Students complete water quality tests and complete worksheets on site. Being secondary students in a well resourced science department they enjoy using some additional equipment; pH meters, dissolved oxygen meters and low range reactive phosphorus test kits that measure in parts per billion. After the excursion the students complete a reflection task."

"Year 7's participate in the River Detectives program in spring. This coincides well with Science Week in August and the College's Sustainability Week. During Term 3 they complete 10 water quality tests of the six parameters (including dissolved oxygen). During Terms 1 and 2 there is a year 10 elective program with a subject involving the RD program. Some students choose to do this elective."

"For all tests, we used to take the students out on site but now at times staff collect water samples for testing at school. This offers better learning outcomes as testing, reflection and extension can all be done fluently. Students are involved with data analysis and comparing different measuring tools."

Urszula finds that the 'Run of the River' board game on the River Detectives website is a great place for students to start.

They are given time to play the game designed for secondary students that helps them learn about our precious rivers, the ways people and wildlife use rivers and creeks, and some recent approaches to the sustainable management of our rivers and water supplies.

“It challenges students to find out more about water resource management and river health issues. Students play, experiment, explore and reflect on the way different management decisions impact on waterways. This then leads to an interest in learning more about their own local waterway through the RD program.”

Urszula reflects on one of the most significant changes the River Detectives program has made;

“Students have been involved in a rehabilitation project further downstream towards Coldstream in conjunction with Melbourne Water and Shire of Yarra Ranges. They grew and planted out indigenous native species.

It has made students realise that creek rehabilitation is doable. The rehab project came about due to work done by a number of dedicated people at the College but the River Detectives program has shown how the project can be linked to the curriculum in areas such as Science.”

The River Detectives program has made a positive impact at the school. Urszula comments that *“It allows students to contribute real life data to real science. Admittedly our data is a small snapshot of the health of our waterway but students get a connection to the waterway, they notice changes in its health and the develop a sense of ownership toward the waterway.”*

Due to its urban location, when students begin in the program they often presume there’ll be no life in the river. Comments such as ‘There’ll be nothing in there Miss’ are common and students are astounded when macroinvertebrate sampling proves them wrong.

Urszula reflects on what she enjoys most about the program;

“the program is more than just water testing it’s about analyzing that data and having students feel empowered to make changes in their own community.

Some students simply may not excel in the classroom. Fieldwork through the RD program gives them the opportunity to come up with amazing conclusions. It is really lovely to see these students shine.”

Participation in the program is sometimes difficult due to inclement weather but this is also a great lesson for students to see how weather conditions impact on waterways.

This year’s COVID restrictions have seen the program postponed at Mount Lilydale Mercy College but Urszula assures that the program will be picked up again in Term 3.

In future, she would love to see the school involved in rehabilitating a second waterway site.

The River Detectives program is supported by the Victorian Government’s \$222 million Water for Victoria investment to improve catchment and waterway health across the state.