

River Detectives Story of Change

Carlisle River Primary School, 2020

River Detectives is a cross-curricular, citizen-science program connecting teachers and young people with their local waterway. Through water quality testing, macroinvertebrate sampling, and habitat surveys students learn about the importance of catchment health and their role in caring for it. 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 regions across Victoria.

In the Corangamite CMA region, Jeff Douma is the principal of Carlisle River Primary School, a small school of just nine students nestled in the Otway Ranges. The school has been involved with the River Detectives program for many years.

“We have always been interested in the indigenous flora of the local Carlisle River forest. We were very fortunate to have a passionate teacher, Gail Maddern, work with us to learn about the biodiversity of our area”

“The late Mrs Laura Bocker (early years teacher) first got our school involved with the River Detectives program. She had a passion for nature and we soon found it was the perfect program to involve our students in learning about the local environment.”

Students and staff have adopted a site on the Carlisle River, a small waterway in the Corangamite catchment of the Otways area. It is a tributary of the Gellibrand River with running water all year round.

At Carlisle River PS the whole school is involved in the program.

“We do water sampling at least once a month at Carlisle River. We all walk the 1km to the river (subject to weather) and undertake the testing at the bridge over the Carlisle River. All of the students from prep to Grade 6 are involved. Older students work with younger buddies to undertake the five tests. The older students take the lead on the more complicated tests such as reactive phosphorus, electrical conductivity and turbidity and the younger students take the lead testing pH with strips and taking photos of the site. On our return to school students add the results on the Waterwatch chart displayed in the school breezeway for parents and visitors to see.”

Jeff comments that it has been great to be involved in the program over many years to collect lots of data and for students to become



very familiar with the program and the river's health through their involvement from Prep.

"Students enjoy being out and about and making a connection with the land and water. They love walking to the river and having time to admire the river. The testing is always interesting. The students estimate the quality of the water due to various factors such as rain, presence of weeds, etc."

Older students remember a time when river levels were higher;

"A fish ladder was installed some years ago which banked up the water and created a much-loved swimming hole for locals however it has since been removed so water levels at the monitoring site are generally lower now with the water flowing more freely."

Other changes have been observed over time;

"Some time ago a program of fencing was undertaken to fence off local farmland from the waterway. Revegetation was added and it was all looking terrific but it hasn't been maintained and now weeds such as blackberry have taken over the site making access to our testing site very difficult."

Talking about these local issues gives students a real-life experience of how land and water management decisions impact plants, animals, land, water, people, industry and communities. Jeff reports that his students really love being involved in the River Detectives program.

"The program helps students really appreciate the importance of looking after our waterways. Our area is a dairy farming area. Learning about the Carlisle River makes students more aware how water quality could impact on local industry."

Jeff speaks passionately about one of the highlights of the school's River Detectives journey;

"In 2019 we set ourselves a goal to see as many waterways in our local area as possible. We researched to find the very start of the Carlisle River. We enjoyed an excursion where we travelled to the source which was actually a spring and then followed the waterway 20-30km to the mouth. This was a fantastic experience for the students to see the waterway on a landscape scale, see how it is an integral part of our area and understand the impact that upstream activities could have further downstream and on the ocean."

"We visited waterfalls, rivers, creeks, the confluence of the Carlisle and Gellibrand rivers and also the estuary of the Gellibrand River at Princetown. The older students visited Camperdown Treatment Plant and learnt a lot about how river water is turned into our tap water."

This year's COVID restrictions have meant challenging times for schools but fortunately Carlisle River PS was able to continue with testing as a few students were still at school during lockdown. During this time the remote learning matrices developed and distributed by the River Detectives team were very useful.

"Students were given the opportunity to choose a selection of activities from the matrix that appealed to them. Due to the lack of internet at many students homes, the resources for chosen activities were then printed out by staff and posted to students. Students were asked to work on their chosen activities one afternoon each week for one hour. One student did a wonderful job of the rainbow task from the Nature Study matrix, thoroughly enjoying searching for natural objects from every colour of the rainbow. He had trouble with blue but found some hay band on his farm. The final product looks amazing."

Looking forward Jeff plans to continue water testing and as school life returns to normality hopes to undertake waterbug and habitat survey activities. He would also love to see the Billabong Banter area of the website used more by schools to share the great River Detectives activities they are doing.

For more information: Email riverdetectives@nccma.vic.gov.au or visit www.riverdetectives.net.au

River Detectives Story of Change

Deans Marsh Primary School, 2022

River Detectives is a cross-curricular, citizen-science program connecting teachers and young people with their local waterway. Through water quality testing, macroinvertebrate sampling, and habitat surveys students learn about the importance of catchment health and their role in caring for it.

Since 2016, the program has been available to schools and youth groups in five regions across Victoria.

In the Corangamite CMA region Russell Taylor-Shaw is the teaching principal at Deans Marsh Primary School, a small rural school of 40 students with three class groups in 2022: Prep/1/2, Grade 3/4 and Grade 5/6. For the last three years, Grade 3/4 have participated in the River Detectives program.

Deans Marsh is a wonderful place with unique nature and wildlife, and the school draws on its environment to support student learning. It has been an active River Detectives school since 2020.



"We do a lot of environment stuff on site at school, but the proximity of the Deans Marsh Creek is just a good opportunity for us [to get the kids out into the community]. We pride ourselves on being a community school – and so, we love the walk down there as well because people see us with our buckets and our nets and it's good. We walk along the main street of the town and we only have to cross two roads and we're there. It's not a long walk but there's not a lot of town around us!"

Deans Marsh Primary School adopts responsibility for testing the water quality of Deans Creek, a tributary of the Barwon River, a significant river in the Corangamite CMA region – and they've learned a lot about where the water comes from and where it goes:

"So the water starts up in the Otways, and Deans Marsh Creek is really where it starts and then eventually it ends up in the Barwon River. So the kids find that interesting as well. All that water is flying down those hills – they all know that area well and then it's coming to us in this creek.

"We've looked at the River Detectives videos on rivers and things and that's been good for the kids to access a bit more information because they do [get a better understanding of the whole concept of catchment, not just a creek on its own].

"We're an inquiry learning school, so we encourage students to have wonderings about topics; and they do have wonderings about nature and about the



environment and about their local area, and so this is a good program – and it’s a year-round program. We do our other inquiry topics just for a term, but this one runs throughout the whole year.

“We try and get down there once a month to do testing and see it in all its different stages. We’re heading down next week, and there’s a little dam on the way there and the landowners told us it’s full of tadpoles [following recent, sustained rainfalls], so we’ll be doing a bit of a detour.”

The school enjoys visits by River Detectives coordinators from the Corangamite CMA. This year Deirdre Murphy held a macroinvertebrate incursion where students learnt about aquatic waterbugs and collected further data.



“[When Deirdre] showed us the water bugs and brought a sample in and there was a little pygmy perch fish and the kids, were like: ‘OK, we’re gonna go down there again, ‘cause we haven’t found a pygmy perch!’ So, yeah, they’re pretty determined.”



The school fosters extensive community partnerships and demonstrates a substantial commitment to environmental education, including an annual trip to the Bambra wetlands to investigate a larger local ecosystem and conduct revegetation at Bambra.



They've developed the school wetlands into a small wildlife reserve involving a partnership with Landcare and local families.



Parents and community members have shared their knowledge of native flora and fauna, working with the school to create a nature walk linking the school wetland with the playground.



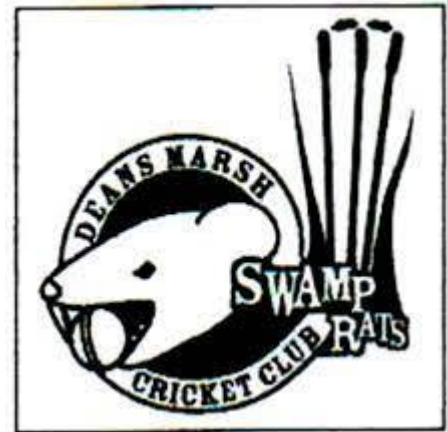
The school is also involved in recycling programs, is a Resource Smart School and is part of the Schools Water Efficiency Program.

Through a water meter installed on their main tank, students and staff monitor water consumption to assist the school to become as water efficient as possible.

And let's not forget about the local cricket club connection:

"Our Grade 5/6s last year were studying the rakali, which is a local species, like a swamp rat. And that's what the local cricket team is named after, the Rakali: the Deans Marsh Swamp Rats.

"So they're the swamp residents; and we've got a big artwork here of a rakali, so that's always in the back of the mind as well: will we see a rakali? The way the Grade 5/6s described it to these guys [Grade 3/4], they think it's about a metre long. So it's like some kind of mythical beast. So yeah, I think they're probably looking for something that's maybe a bit bigger than what it is!"



Russell explains the impact the River Detectives program has had on the school and students:

"River Detectives is one of those things that students will list as a personal highlight in the yearbook, where students talk about their gratitude and their highlights from the year and put all their photos on their page.

"But it's more than that; there's the invisible aspects too: the pride in their town and in their environment and in themselves.

"They're in little teams named after water bugs. So we've got our water boatman team for instance, and each time the team will have a different testing regime. They might be testing the pH one week or the electrical conductivity and that water boatman team gets quite close and they've designed themselves some little logos and things and they've got a folder of their notes. So we've really embraced it as a school program and added our own flair to it.

"So there are a lot of invisible things, like that team building and that pride, and that sense of achievement in doing something good for the community. When we all sit down and enter the data at the end, they can all hear it and can all see the fish change colour (on the screen) based on the quality of the water. So there's quite a bit of learning in there as well – the testing, the main four tests – but we also try and get some samples to look at and do the habitat check as well."

For Russell, the River Detectives program has provided a flexible, engaging, outdoor learning experience:

"River Detectives is a really good out-of-classroom experience for the kids. If COVID taught us anything, it's that we're not always going to be in our classrooms. Things don't always go to plan. So it's good that we can show that some great learning can happen outside of the classrooms as well. Pulling on the gumboots and heading down to the Deans Marsh Creek with the kids and the school therapy dog and all our buckets and things is a great adventure – last time we got caught in the heaviest rain I've ever experienced. And you know, it's all just part of the adventure. And the kids – the kids really love it."

For more information:

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