

river DETECTIVES



Statewide mid-year
report 2023



COMMUNITY
PARTNERSHIP
PROGRAM



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Acknowledgement

The River Detectives program acknowledges the Traditional Owners across the regions on which the program is delivered. We recognise their rich culture and spiritual connection to Country and the contribution and interest of Aboriginal people and organisations in land and natural resource management.

Program Delivery

River Detectives is an engaging, cross-curricular environmental education initiative connecting young people to nature by caring for their local waterway. Students learn about the importance of healthy waterways and catchments through citizen-science activities; water quality testing, macroinvertebrate sampling and habitat surveys. They gain knowledge of the vital role waterways play in sustaining land, flora, fauna, people and communities. Participating schools are provided with equipment, training, support and teaching resources.

The state-wide River Detectives program is generously sponsored by Agnico Eagle Australia Community Partnership Program. The sponsorship enables the co-ordination and delivery of the program across four regions.

2023 River Detectives delivery partners

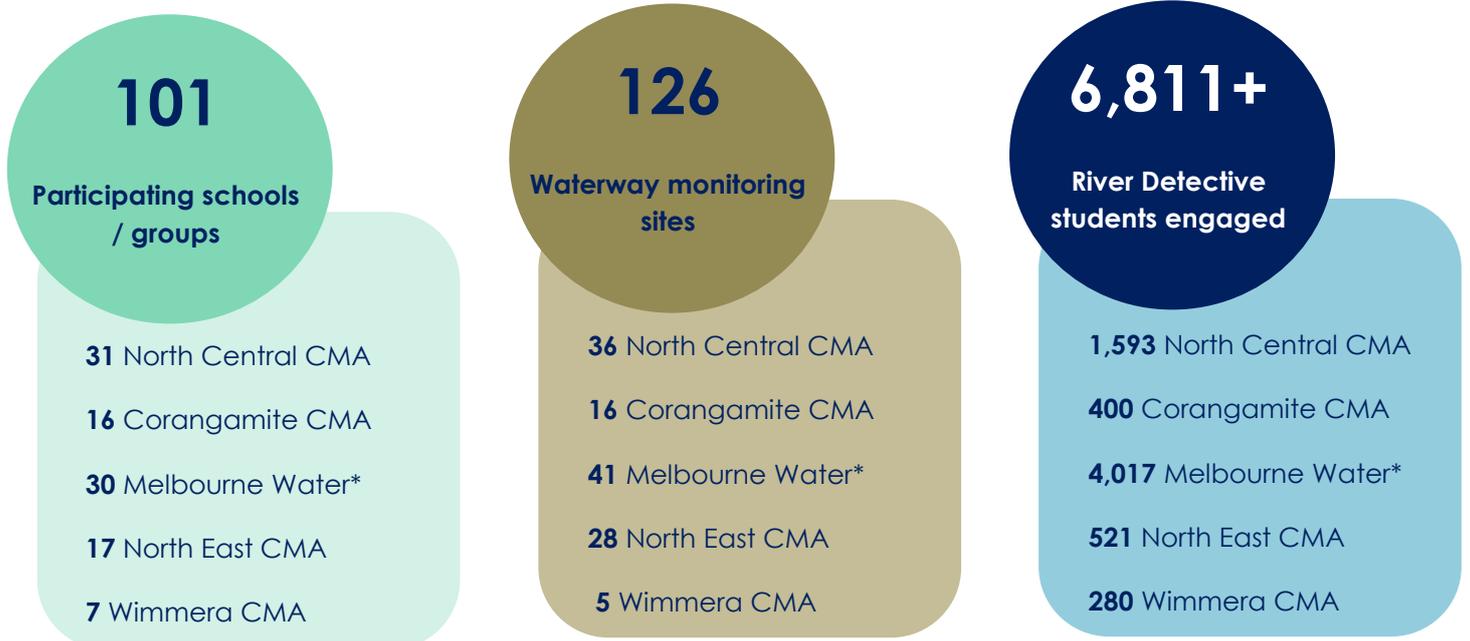
- North Central Catchment Management Authority (CMA)
- Corangamite Catchment Management Authority (CMA)
- North East Catchment Management Authority (CMA)
- Wimmera Catchment Management Authority (CMA)
- Melbourne Water*

*Melbourne Water's participation in the program is secured through separate funding.

This report highlights statewide River Detectives program activities during the first half of 2023.

Statewide Delivery

Terms 1 and 2, 2023



Delivered 22 professional development introductory sessions for teachers

Held two online statewide coordinator network meetings

Supported 146 teachers to deliver the program

Recorded 'Pinpointing Platypus' Ask The Expert Webinar

Statewide statistics

Terms 1 and 2, 2023

Region	North Central CMA	Corangamite CMA	Melbourne Water*	North East CMA	Wimmera CMA
Registered groups	31	16	30	17	7
Monitoring sites	36	16	41	28	5
Data entries	29	8	19	5	3
Water quality entries	27	8	14	1	3
Waterbug entries	0	0	2	4	0
Habitat assessments	2	0	5	0	0



Josh Griffiths surveying platypus. Credit: Doug Gimesy/Nature Picture Library

Statewide highlights

'Pinpointing Platypus' ask the expert webinar

Cesar's senior wildlife ecologist Josh Griffiths provided an insight into the (sometime elusive) but also fascinating; platypus. Students from around the state were given the opportunity to submit questions for Josh and these were posed to him during the recorded session.

Josh also highlighted the 2021 Great Australian Platypus Search results



Josh Griffiths speaking with Nicole Howie during the webinar

Josh was kept on his toes with a variety of insightful questions submitted by students of;

- Epsom PS, North Central CMA region
- Mitta Mitta PS, North East CMA region
- Cornish College, Melbourne Water area
- Skipton PS, Corangamite CMA region

The recording is available at the River Detectives website and [youtube](#) for on-demand viewing.

Q "Are platypus good mothers?"

Cornish College grade five student.

A "Yes. Baby platypus are completely reliant on their mothers for three months. She feeds them rich milk and when they emerge from the burrow they are the size of an adult. She teaches them to swim and forage and within two weeks they venture off to live independently."

Josh Griffiths



88

Views



Great Australian Platypus Search results
Credit: Great Australian Platypus Search website

North Central CMA

Coordinator Nicole Howie



Participation in River Detectives in the North Central CMA region during Terms 1 & 2, 2023

Number of River Detectives schools/groups registered	31
Number of students participating in the River Detectives program	1,593
Number of teachers/educators being supported	44

Activity	Number	Participants
Co-ordination of introductory PD session/s for educators	12	29
Coordination of and attendance at state-wide network meetings	2	N/A
Delivery of one incursion per school per year	8	367
Incursion/excursion with a non-River Detectives school	1	16

Term 1 and 2 highlights

Strong appetite for the program

Interest and registrations for the 2023 program have increased with many schools continuing their involvement from 2022 after a hiatus. Some experienced River Detectives teachers have registered their school after transferring within the North Central CMA region and another experienced River Detective teacher signed up their new school after transferring to the North Central CMA from another participating region.

“The River Detectives Program provides a meaningful way for students to connect with and learn about the school’s manmade wetland. This improves care for the local environment and allows students to have a say in future management. As a F-12 school the program can be used across all year levels and embedded in many curriculum areas.”

Marist College Bendigo teacher



Introductory professional development (PD) sessions

With COVID-19 restrictions eased Nicole Howie, North Central CMA River Detectives Coordinator, returned to face-to-face professional development (PD) sessions with educators. Eleven PD sessions were held throughout March, April and May and were a great opportunity to strengthen relationships with and between the 26 educators who took part. The sessions provide participants with support, inspiration and equipment necessary to establish or strengthen the program in their school.



Chewton PS teacher Serena (left) being inducted to the program at Forest Creek, Chewton

In addition to eleven in-person PD sessions, an online session was offered and attended by three educators with others being able to access the recorded version online in their own time.

“Really well presented and accessible. Nicole was comprehensive in what she covered and allowed time for lots of questions and relaxed discussion. Felt very comfortable.”

Teacher feedback from Introductory PD Session

Positive response to program modifications

Schools are encouraged to link River Detectives learning with a learning inquiry focus. This has been well received and examples include:

- Kyneton PS Grade 3/4 students accessing River Detectives resources during their focus on water throughout Term 2
- Malmsbury PS Grade 2-4 students learning how they can enhance the habitat quality of their school's new 'frog bog'.
- Murrabit PS Grade 2-4 unit planning to conduct a 'river day' once a month and use water quality testing to compare waterways in their area post-2022 floods.
- White Hills math extension students using a stormwater incursion to plan an inquiry and enter a math competition.
- Epsom PS looking to revegetate a section of the Bendigo Creek bank impacted by flooding and bridge reconstruction works during 2022.
- Castlemaine Steiner School collaborating with another River Detective school to learn how to grow wetland plants for their school dam for better bug habitat.



River Detectives display at Kyneton PS

Partnerships with others to promote River Detectives



Secondary students from Echuca and surrounds were introduced to citizen science activities and career opportunities in natural resource management through a River Detectives presentation at the Beacon Career's Expo in Moama on May 9.

Students learnt about the work of the North Central CMA and how citizen science plays a vital role in collecting data from across the region to inform management decisions.

Presenting to students at the Beacon Careers Expo in Moama

Nicole was a guest at an online Landcare Facilitator meeting in May providing North Central CMA Landcare facilitators with a summary of the River Detectives program and what it can offer Landcare groups interested in collaborating more closely with schools.



Awards

The Daylesford Dharma School was chuffed to receive a Regional Recognition Award at the North Central CMA's Regional Roundtable held in Daylesford in March. The school was rewarded for their commitment to the River Detectives program over many years and a raft of other sustainability initiatives that have contributed to the implementation of the North Central Regional Catchment Strategy.



Daylesford Dharma School students and teachers proudly holding their Regional Recognition Award

School incursions

Visiting River Detectives schools across the region is highly valuable for coordinators, students and teachers. Eight schools from across the region took up the opportunity with sessions engaging students and staff in water quality testing, macroinvertebrate sampling, urban stormwater, art, habitat surveys and frogs during term two.



Kyneton PS incursion



Malmsbury PS incursion



Lake Boga PS incursion

School	Date	Year level	Students
1. Lockwood South PS	26/4/2023	P-6	30
2. Kyneton Primary School	15/5/2023	3/4	92
3. Castlemaine Steiner School	15/5/2023	3/4	35
4. White Hills Primary School	17/5/2023	4	9
5. Lake Boga Primary School	23/5/2023	3-6	36
6. Murrabit Primary School	23/5/2023	2-4	10
7. Bendigo Snr Sec College *	24/5/2023	VCAL Yr 12	15
8. Malmsbury Primary School	31/5/2023	2-4	36
9. St Francis of the Fields PS	19/6/2023	3/4	80
*non RD school		Total	343

“William has really enjoyed the River Detectives project, he came home and talked about it which he never does with other school work.”

Feedback from a Kyneton PS parent

Corangamite CMA

Coordinators Deirdre Murphy and Kristen Lees



Participation in River Detectives in the Corangamite CMA region during Terms 1 & 2, 2023

Number of River Detectives schools/groups registered	16
Number of students participating in the River Detectives program	400
Number of teachers/educators being supported	32

Activity	Number	Participants
Co-ordination of introductory PD session/s for educators	2	16
Attendance at state-wide network meetings	2	N/A
Delivery of one incursion per school per year	3	107

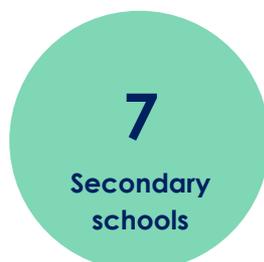
Term 1 and 2 highlights

A keen cohort of schools

Sixteen schools/groups have registered for the 2023 program from a variety of school and educational settings. Christian College Geelong incorporates the program into their agricultural studies to measure the impact of their working dairy farm on the local catchment. Parks Victoria staff at Serendip Sanctuary in Lara include River Detectives citizen science activities into their suite of environmental education activities enjoyed by visiting schools.

“River Detectives is a proven, hands-on curriculum linked tool that is appreciated by school leaders, valued by teachers and provides even more access to local experts whilst encouraging both students and teachers to learn and contribute to maximising waterway health in our region.”

Timboon P-12 School staff member



Introductory professional development (PD) sessions

Two introductory PD sessions were delivered to new and returning teachers during March. These sessions were held in Colac and Geelong to sixteen participants. The sessions inducted new schools and teachers to the program.

Teachers were provided with their water quality testing kits, practiced the testing procedures and learnt about the resources available to give them the confidence to impart knowledge of waterways and catchments to students.



“Really informative. Definitely worth completing each year for a refresh. Presenters were lovely, practical demonstration was invaluable and questions were answered clearly and knowledgeably.”

Teacher feedback from Introductory PD Sessions



Participants being inducted to the River Detectives program in Geelong

Introduction to data entry session for educators

In an effort to support teachers, increase confidence in the data entry process and boost the data being entered, a training session was held online for educators on May 30. Four educators attended, gaining individual training in navigating the data entry portal on the River Detectives website.

Promotion in the community

A promotional display and waterbug activity gained a lot of attention at the Ballarat Begonia Festival from the 10-13 March and was visited by more than 2,000 community members. The River Detectives program was represented as part of a broader WaterWatch display at the three-day event which was a wonderful opportunity for the program.



2000
Visitors to site

School incursions

Thirty Year 9 Covenant College Geelong students were immersed in water quality testing at the Moorabool River on March 9 with River Detectives coordinator Deirdre. The school encourages students to observe what the land is like around them in regard to water quality, flora and fauna. The incursion activity was in partnership with a local Landcare group that showcased the alignment with on-ground and River Detective activities.

How's this for a classroom!!

3/23/2023

Following our recent River Detectives PD, our Year 10 Geography class took their investigation of the Curdies estuary outdoors to learn more about the health of waterways in our region. During their field trip to the Curdies River at the trestle bridge near Timboon, Corangamite Catchment Management Authority (CCMA) River Detectives Project Officer, Deirdre Murphy, and Debbie Dalziel, from the Curdies Valley Landcare Network asked students about their knowledge of the Curdies catchment and the impact of land use on water quality. Breaking into groups, the students then tested a water sample from the Curdies and compared this with a sample from the upper Curdies catchment near Cobden. Students compared water temperature, turbidity, pH, salinity, and reactive phosphorus (nutrient content) of the water and discussed their findings. Ensuing discussions included the impacts of change in nutrient levels in the Curdies catchment that can result in blue green algae blooms, poor water quality and fish deaths. Another group sorted and identified water bugs from the trestle bridge site and considered what happens to biodiversity when there is loss of habitat and what can be done to restore and improve waterway condition. This field trip enabled students to understand the ecological impacts of land use changes and it's impact on potential water quality in our region. Thanks Deirdre and Debbie.



Twenty-five Year 10 Geography students from Timboon P-12 extended their school-based learning about the Curdies estuary with an outing to the Curdies River on March 23.

Fifty-two Year 7/8 Apollo Bay P-12 College students enjoyed exploring waterbugs at the Paradise picnic reserve on the Barham River on May 30.

Incursions value-add to the River Detectives work students are doing in the classroom. They are enjoyed by students and valued by teachers as an opportunity to connect with an expert and to learn knowledge and skills themselves.

Article about the River Detectives incursion. Credit: Timboon P-12 school blog

School	Date	Year level	Students
1. Covenant College	9/3/2023	9	30
2. Timboon P-12 School	23/3/2023	10	25
3. Apollo Bay P-12 College	30/5/2023	7/8	52
		Total	107

Melbourne Water

Coordinator Jane Petch



Participation in River Detectives in the Melbourne Water area during Terms 1 & 2, 2023

Number of schools/groups registered for River Detectives	30
Number of students participating in the River Detectives program	4,017
Number of teachers/educators being supported	43

Activity	Number	Participants
Co-ordination of introductory PD session/s for educators	3	19

Term 1 and 2 highlights A bumper year for registrations

Many schools have rolled over their 2022 registration and several new schools have joined the program taking the total to thirty schools and many thousands of students engaged in the River Detectives program in 2023. Schools are more actively involved with the program this year compared to previous COVID-19 interrupted years with two-way communication between teachers and River Detectives coordinators. They are also keen to share their learning beyond the classroom. Nineteen data entries have been uploaded to the portal so far, already two-thirds of last year's total.



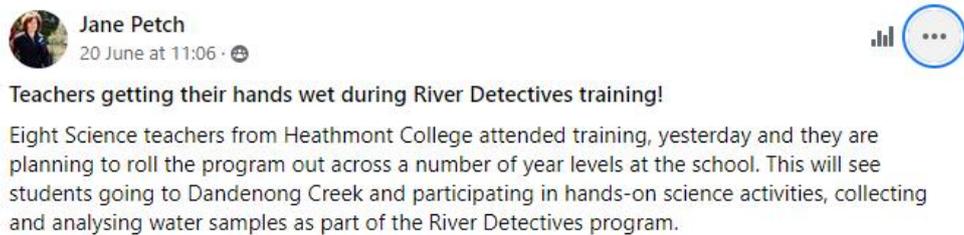
“We are lucky to be located within walking distance from Mullum Mullum Creek, so we will be able to develop students personal connection with and knowledge of a local waterway. Our students will be able to share their learning and experience in this program with the wider community through our school Facebook Page and writing articles for our school newsletter.”

Mullauna College teacher, Mitcham



Introductory professional development (PD) sessions

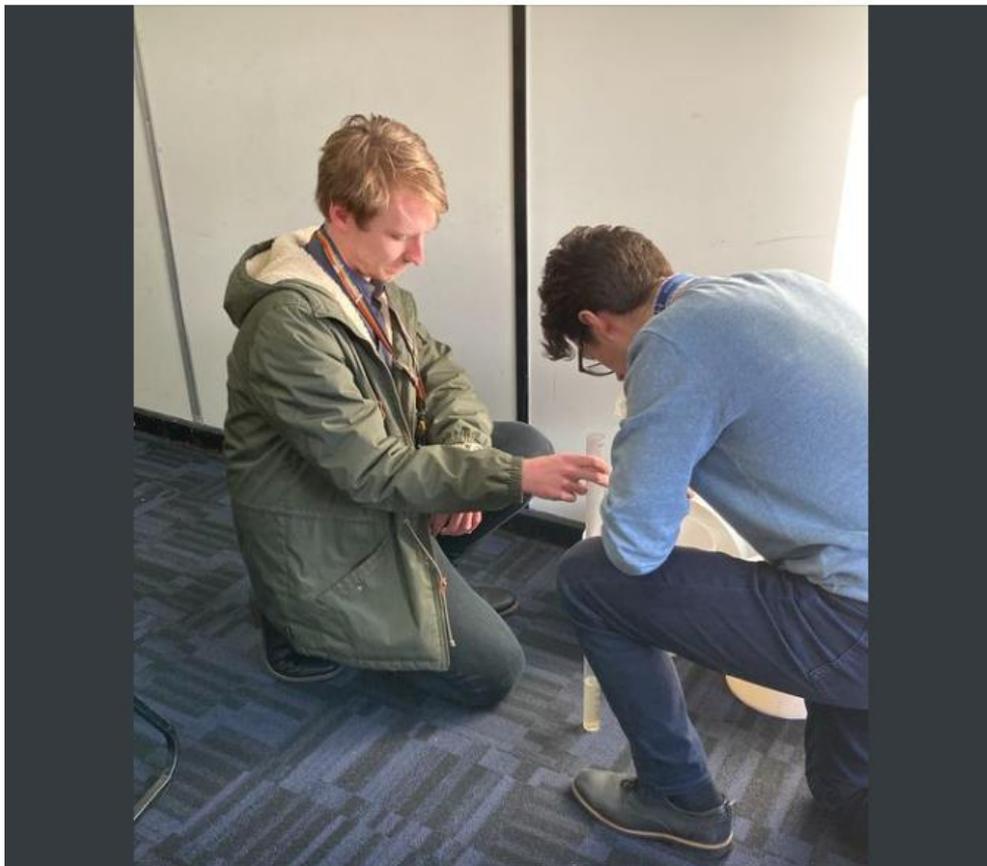
Melbourne Water River Detectives coordinator Jane conducted three introductory PD sessions between March and June to induct and refresh this year's cohort of teachers. A highly successful session was held at Heathmont College in June where eight science teachers gathered to learn about the program. They are planning to deliver the program across multiple year levels to engage students in hands-on science and learn more about the benefits of citizen science. It will be interesting to see what the school can achieve throughout the year with such an investment in professional development by science staff.

A screenshot of a Facebook post. The post is from Jane Petch, dated 20 June at 11:06. The text of the post reads: "Teachers getting their hands wet during River Detectives training! Eight Science teachers from Heathmont College attended training, yesterday and they are planning to roll the program out across a number of year levels at the school. This will see students going to Dandenong Creek and participating in hands-on science activities, collecting and analysing water samples as part of the River Detectives program." The post includes a profile picture of Jane Petch, a share icon, and a menu icon.

Jane Petch
20 June at 11:06 · 🌐

Teachers getting their hands wet during River Detectives training!

Eight Science teachers from Heathmont College attended training, yesterday and they are planning to roll the program out across a number of year levels at the school. This will see students going to Dandenong Creek and participating in hands-on science activities, collecting and analysing water samples as part of the River Detectives program.



Heathmont College PD session post. Credit: Melbourne Water Workplace forum

ResourceSmart Schools Awards 2023

Jane attended this event held at the MCG on June 15 with a number of River Detectives schools from across the state represented. These schools are forging the way with exciting initiatives at their school proving that they are leaders in sustainability education. It is great to see that they value the River Detectives program as an integral part of their sustainability curriculum.

Mount Lilydale Mercy College
(Melbourne Water area)

Finalist, Secondary Teacher of the Year award

Finalist, ResourceSmart School of the Year award



Proud finalists. Credit: Mount Lilydale Mercy College facebook

Overnewton Anglican Community College Keilor
(Melbourne Water area)

Finalist, School Volunteer of the Year award

Finalist, Community Leadership School of the Year award (primary)

Winner, Student Action Team of the Year



Proud winners. Credit: Overnewton Anglican Community College facebook

Chewton Primary School (North Central CMA region)

Winner, Campus infrastructure and Operations School of the Year



Proud winners. Credit: Chewton PS facebook

Castlemaine Steiner School and Kindergarten

(North Central CMA region)

Winner, Curriculum Leadership School of the Year



Proud winners. Credit: Castlemaine Steiner School facebook



NORTH EAST
CATCHMENT
MANAGEMENT
AUTHORITY

North East CMA

Coordinator Anna Hall

Participation in River Detectives in the North East CMA region during Terms 1 & 2, 2023

Number of River Detectives schools/groups registered	17
Number of students participating in the River Detectives program	521
Number of teachers/educators being supported	20

Activity	Number	Participants
Attendance at state-wide network meetings	2	N/A
Coordination of online Q & A session	1	2

Term 1 and 2 highlights

A new era of River Detectives in the North East

The North East CMA has experienced an influx of schools looking to be involved in the River Detectives program in 2023. Six schools continued with the program and eleven new schools have registered taking the total number of schools to seventeen.

This is a huge increase in numbers from 2022 (previously five schools). It is great to see so many schools committed to learning more about the environment in the North East.

“Kids love science, especially hands on science that is relevant to their lives. This ticks all these boxes. Plus, kids feel they are helping their community and environment. It is a positive experience for them in a world always giving gloomy environmental/climate change messages.”

Tawonga Primary School teacher



The North East CMA employed a new part-time employee, Anna Hall, to coordinate the delivery of the River Detectives program in 2023. This is an extremely positive move for the region to ensure priority is placed on the program to foster deeper relationships and continuity between the CMA and schools.

During Terms 1 and 2, the coordinator focused on assisting with the registration of eleven new schools, providing monitoring kits and refreshing those kits already with schools, selecting and adding sites to the schools' online accounts and networking with teachers involved in the program.

Although these preliminary tasks took longer than anticipated, they are the foundation of the program and important to get right to start schools successfully on their River Detectives journey.

Internal support from other North East CMA staff

To support such a high number of new River Detectives schools, and given Anna works one day per week, the North East CMA have had internal conversations to ascertain how other project officers can support the River Detectives Coordinator. Several project officers within the organisation have agreed to assist in delivering the program by either helping with school incursions/excursions or partially funding water monitoring kits.

This is great to see as organisations see greater value in the program when it is embedded into projects and their overall culture.

Introductory professional development (PD) sessions

All schools were offered access to the recorded online Introductory PD session. This provided the opportunity for participants to learn how to use their water quality monitoring equipment prior to receiving it.

Once schools had received the required equipment an online Q & A session was offered to discuss the program, the equipment and the River Detectives website.

“Wodonga Middle Years College is participating in the River Detectives program in 2023 for the first time, and we are thoroughly enjoying the process so far. Students are looking forward to monitoring the Kiewa River using the monitoring kit. The resources available on the River Detectives website have allowed us to provide additional learning with our students as we prepare for implementation in term 3. The online catch up in term 2 was invaluable as we were able to connect with other local participants and clarify any questions we had.”

Wodonga Middle Years College teacher

Highlights from schools

Data entry

Five schools have submitted water quality results into the River Detectives data portal during Term 2. Four of these schools are experienced River Detectives schools and hit the ground running in 2023 but it was also pleasing to see a new school, Beechworth Primary School, keen to enter data for the first time.

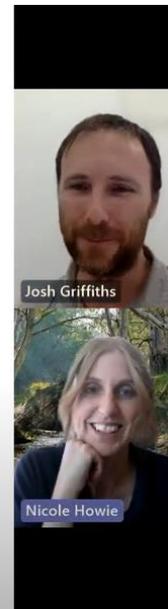


Contributing to the 'Ask the Expert' webinar

Mitta Mitta Primary School continues to show their commitment to the River Detectives Program. They recently represented the North East through their submission of questions for the 'Pinpointing Platypus' Ask the Expert webinar with Josh Griffiths.

Teaching principal Michael McBrien submitted the most pressing questions on behalf of fifteen students of this small school that included

1. Are platypus the same all over Australia?
2. What can we do to make our creeks better for platypus?
3. What do platypus eat?



Josh Griffiths answering Mitta Mitta PS student questions during the webinar

The webinar is available for on demand viewing on [youtube](#) and on the River Detectives website. The students will be so chuffed to hear their questions posed to Josh.

Keen to be back with the program

Beechworth Montessori School has participated in the River Detectives program in the past and has returned in 2023. They have made an enthusiastic start with their involvement outlined in a May school newsletter;



“Students really loved it in 2019 and we feel it is of benefit to the Beechworth community.”

Beechworth Montessori School teacher



Beechworth Montessori School students enjoying their water quality testing

School incursions

Anna has been busy preparing a suite of incursion lesson plans and teaching resources. She has distributed the Term 3 incursion booking form and is looking forward to getting out and about in schools during the next half year.

Wimmera CMA

Coordinator Jeanie Clark



Participation in River Detectives in the Wimmera CMA region during Terms 1 & 2, 2023

Number of River Detectives schools/groups registered	7
Number of students participating in the River Detectives program	280
Number of teachers/educators being supported	7

Activity	Number	Participants
Co-ordination of introductory PD session/s for educators	4	8
Attendance at state-wide network meetings	2	N/A
Provision of Powerpoint PD materials	2	7

Term 1 and 2 highlights

New interest from Wimmera schools

Of the seven schools that initially registered for the 2023 program, two continued from 2022, one returned after a time away and four joined for the very first time proving that the program continues to appeal to schools and reach new audiences.

“Our geography curriculum is quite bland and disconnected from our local context. We are looking to embed more practical opportunities that allow students to practice collecting and analysing geographical data from Years 7-10.”

Horsham College teacher



Introductory professional development (PD) sessions

Professional Development sessions with teachers were conducted in-person at individual schools for most. Sessions with Horsham schools were conducted on the banks of the Wimmera River.

School	PD type	Date
Horsham College	Introductory	1 March
Holy Trinity Lutheran School	Introductory	1 March
St Mary's Warracknabeal	Introductory	7 March
Jeparit PS	Review / Intro	30 March
Horsham PS	Introductory	4 April

Equipping schools

In response to teacher feedback, Jeanie was able to source former WaterWatch equipment to supplement the standard water quality testing kit. All six Wimmera region schools now have a class set with ample equipment for all students to have maximum engagement in the four tests; temperature, electrical conductivity, pH and turbidity.



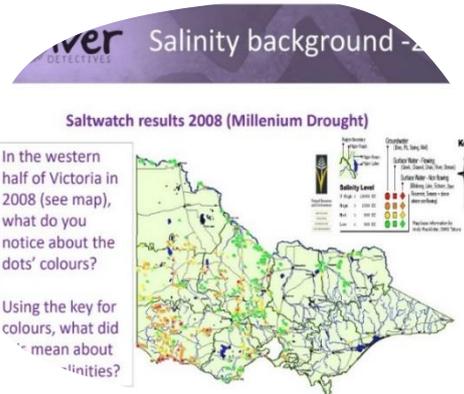
In addition, all schools were provided with direct links to their site on the WaterWatch database so they can explore, analyse and interpret historical data.

Four of the six schools have been testing this year so far.

Additional professional development opportunities

To support schools to broaden and deepen their River Detectives learning, two teaching resources were updated and distributed as self-guided digital professional development sessions for teachers. A presentation about wetlands complemented World Wetlands Day in early February.

Another presentation about salinity shared the findings that evolved from many years of Saltwatch Week, traditionally celebrated in May. It gave suggestions for other salt-focused class activities to increase understanding of this threat to waterways and catchments.



Screenshots from the two powerpoint presentations offered to Wimmera CMA schools

Celebrating the contribution of Jeparit Primary School

During March, WaterWatch commemorated its 30 year anniversary. Remarkably, Jeparit WaterWatch group in the Wimmera region has been engaged in WaterWatch for 28 of those 30 years!



Jeparit Primary School has always had a close relationship with the Jeparit WaterWatch group, monitoring water quality and enjoying river-based learning activities since the first Saltwatch Week was offered in 1995, long before 'River Detectives' was born.

When Jeparit WaterWatch group received an Outstanding Service Award as part of the WaterWatch Victoria 30 year celebrations, Jeparit Primary School, due to their continued involvement with River Detectives, was considered part of this community achievement.

A presentation to the group was made at the Jeparit Nursing Home to include a former member, now 96-years old, and another former member's spouse and family. Two Grade 6 Jeparit PS River Detective students were delighted to attend and aid in the presentation of 28 years of Jeparit WaterWatch water quality findings.



Jeanie Clark explaining historical WaterWatch data with the help of Jeparit PS students