

ESTUARYWATCH & WATERWATCH ANNUAL ACHIEVEMENTS REPORT 2014-15



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EstuaryWatch Victoria and Waterwatch Victoria are supported by the State Government of Victoria.

Waterwatch Victoria Agreed Level Taxonomy (ALT) training >

INTRODUCTION

Our volunteers are helping to meet state government policy directions on active community involvement.

Active community participation in waterway management programs is a policy direction of the Victorian Government.

Community-based volunteers in the EstuaryWatch and Waterwatch monitoring programs are helping to meet this policy goal. Their activities are captured in this report.

The Annual Achievements Report is an update on what's been happening with the Victorian EstuaryWatch and Waterwatch programs during 2014-15.

The first section of each program report provides statistics on community engagement and the economic value of volunteer monitoring.

The next section of each report takes a regional perspective, capturing the outputs and stories from participating regions, demonstrating the outcomes of active and engaged communities.

The programs' state coordinators based at the Corangamite Catchment Management Authority organise skills development and training opportunities for the region's Waterwatch and EstuaryWatch coordinators and facilitators. These new skills increase the range of monitoring parameters useful in evaluating waterway restoration and protection programs, and the opportunities for community member involvement.

The report shows how these community monitoring programs assist waterway managers to meet improved management outcomes.



VOLUNTEER MONITORING SITES



This map shows the impact and effectiveness of the EstuaryWatch and Waterwatch community monitoring programs in 2014-15.

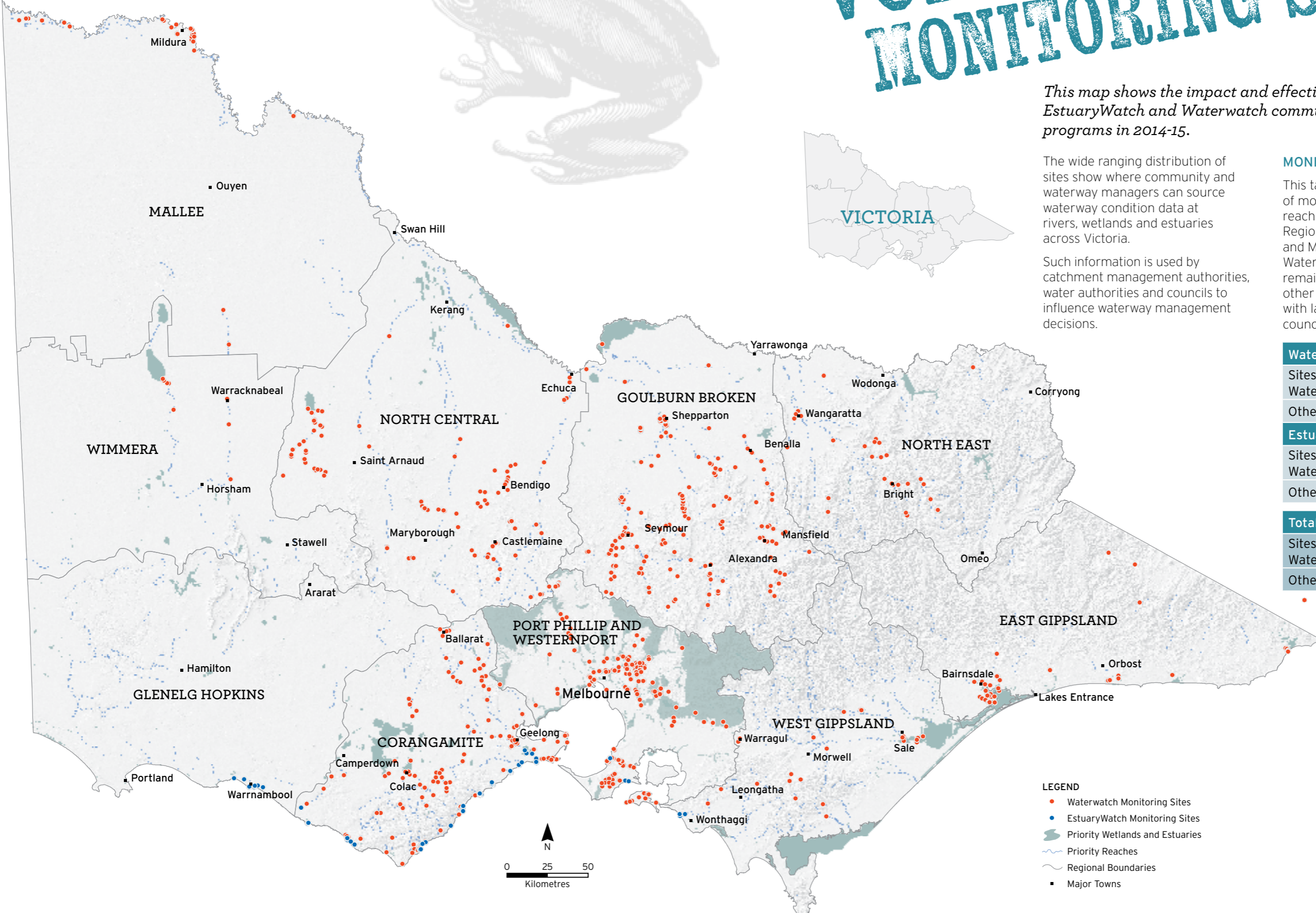
The wide ranging distribution of sites show where community and waterway managers can source waterway condition data at rivers, wetlands and estuaries across Victoria.

Such information is used by catchment management authorities, water authorities and councils to influence waterway management decisions.

MONITORING SITES SUMMARY

This table provides the percentage of monitoring occurring at priority reaches identified in current Regional Waterway Strategies and Melbourne Water's Healthy Waterways Priority Areas. The remaining sites are monitored for other purposes, including programs with land and waterway managers, councils and research institutions.

Waterwatch	
Sites on Priority Waterways	384 (48%)
Other Sites	419 (52%)
EstuaryWatch	
Sites on Priority Waterways	87 (81%)
Other Sites	20 (19%)
Total	
Sites on Priority Waterways	471 (52%)
Other Sites	439 (48%)



ESTUARYWATCH VICTORIA



THE ESTUARYWATCH PROGRAM

EstuaryWatch Victoria has successfully engaged people with their local estuary since 2006, raising awareness about estuary health and estuary management.

Waterway managers across Victoria have used EstuaryWatch data to inform artificial estuary openings, algal bloom management, acid sulphate soil impacts on estuary condition, works on waterways and flood studies.

ABOUT THE ESTUARYWATCH COORDINATORS

Five staff (1.3 FTE) coordinate the EstuaryWatch program across four catchment areas. They are employed in CMAs and water authorities.

The Victorian EstuaryWatch program coordinator (0.4 FTE) organised training days and meetings for regional EstuaryWatch coordinators.

ABOUT THE VOLUNTEER ESTUARYWATCH MONITORS

EstuaryWatch monitors meet monthly and work in groups conducting monitoring of 18 of Victoria's estuaries. A total of 121 people conducted monitoring at 104 sites providing 848 assessments of estuary condition. During the 2014-2015 financial year EstuaryWatchers volunteered 3,112 hours. At a rate of \$33.61 per hour¹, the economic value of EstuaryWatch volunteer effort is \$104,594.32.

ABOUT THE PLACES MONITORED

Eighty-one percent of EstuaryWatch monitoring takes place in waterways identified as priority reaches in Regional Waterway Strategies for Corangamite CMA, Glenelg Hopkins CMA, West Gippsland CMA and Melbourne Water.

A total of 121 people conducted monitoring at 104 sites providing 848 assessments of estuary condition.

ABOUT THE DATA GATHERED

EstuaryWatch monitors attend Quality Assurance and Quality Control (QA/QC) events every six months. At these events monitors calibrate their monitoring equipment and test three mystery samples. EstuaryWatchers also complete an open book knowledge quiz. The quiz sparks discussion and helps participants increase their understanding of estuary processes and management.



Celebrating the launch of the Plan for EstuaryWatch Victoria

EstuaryWatch coordinators meet to discuss monitoring methods

WHAT HAVE WE LEARNT:

Presentation: "Engaging community and stakeholders to better inform decision making on estuary health" Rose Herben, Australian Citizen Science Conference.

Documents published include:

- Plan for EstuaryWatch Victoria: www.ccma.vic.gov.au/admin/file/content2/c7/The%20Plan%20for%20EstuaryWatch%20Victoria%20-%202015%20-%20Web.pdf
- EstuaryWatch monitoring, evaluation and reporting plan: www.ccma.vic.gov.au/admin/file/content2/c7/15%200417%20EstuaryWatch%20MER%20Plan.pdf
- EstuaryWatch Victoria Annual Summary Brochure template: www.ccma.vic.gov.au/admin/file/content2/c7/Anglesea%202014_data%20interpretation.pdf
- EstuaryWatch Victoria Fact Sheet template: www.ccma.vic.gov.au/admin/file/content2/c7/EstuaryWatch%20Victoria.pdf
- EstuaryWatch News (quarterly): www.ccma.vic.gov.au/admin/file/content2/c7/EW_News_September_2014.pdf

The EstuaryWatch Victoria data portal can be viewed at www.estuarywatch.com.au



A couple of budding EstuaryWatchers enjoying the Festival of the Sea on the Barwon River

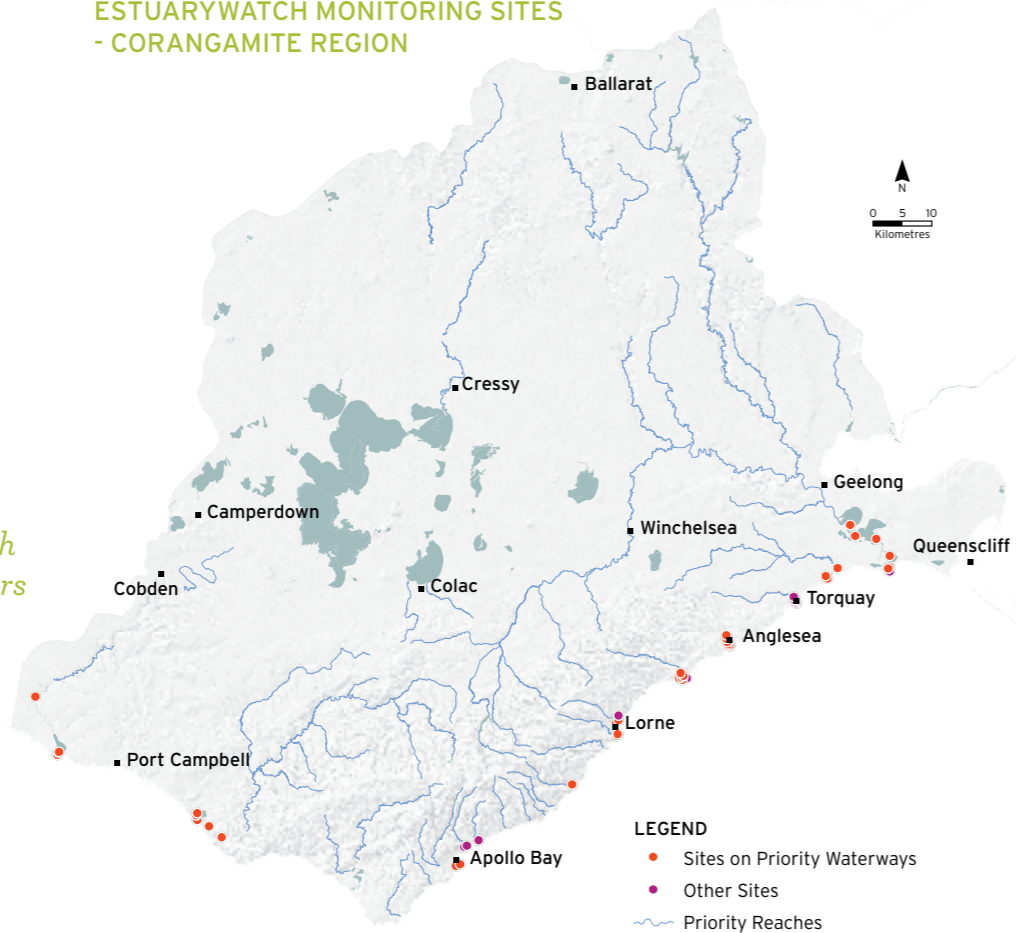
¹ Government of Victoria, The Economic Value of Volunteering in Victoria, 2012 www.volunteeringvictoria.org.au/wp-content/uploads/2012/02/The-Economic-Value-of-Volunteering-in-Victoria.pdf

CORANGAMITE ESTUARYWATCH

ESTUARYWATCH MONITORING SITES - CORANGAMITE REGION



Corangamite EstuaryWatch has two (1 FTE) coordinators deliver the program.



ABOUT THE CORANGAMITE ESTUARYWATCH PROGRAM

Active Groups	13
Active Sites	79
Active Volunteers	96

Event participation	People
Training	90
Presentation	88
Field day	-
Work shop	-
Conference	-
Meeting	-
Total	178

WHAT HAVE WE LEARNT:

Documents published include:

- Lower Barwon Wetlands Connectivity Report: www.ccma.vic.gov.au/admin/file/content2/c7/308701R01v04_LowerBarwon_FINAL.pdf
- Painkalac Creek Estuary, An interpreted summary of data: www.ccma.vic.gov.au/admin/file/content2/c7/PAINKALAC%20CREEK%20DATA%20ANALYSIS%20SUMMARY_WEB.pdf
- Painkalac Creek Estuary, Data Analysis and Interpretation 2007-2013: www.ccma.vic.gov.au/admin/file/content2/c7/11452%20PAINKALAC%20CREEK%20DATA%20ANALYSIS%20BOOK_WEB2_1413329451174.pdf

Resources can be viewed at www.ccma.vic.gov.au

LOWER BARWON WETLANDS CONNECTIVITY

The estuarine reach of the Barwon River incorporates a system of wetlands and lakes including Lake Connewarre, Reedy Lake, Hospital Swamp and Murtnaghurt Lagoon.



These wetlands form part of the Port Phillip (Western Shoreline) and Bellarine Peninsula Ramsar site.

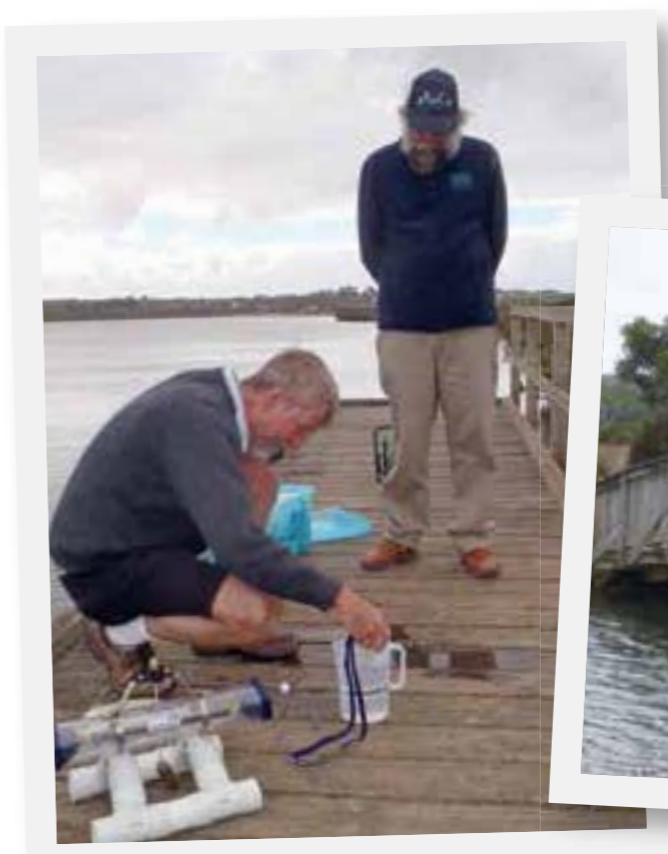
In 2014, Corangamite CMA engaged Water Technology to undertake a study to identify options to improve the connectivity of the lower Barwon wetlands.

One of the objectives of the project was to identify modifications needed to the Reedy Lake outlet channel and culvert to improve the ability to flush the wetland with tidal water from Lake Connewarre, when Reedy Lake has been partially dried.

Corangamite EstuaryWatch salinity data was used in the project to provide an understanding of the longterm salinity variability in the lower Barwon.

This data was vital in determining whether inundation of Reedy Lake with saline water from Lake Connewarre could only be considered a seasonal option with suitable salinity conditions generally only likely to occur during summer and early autumn.

In 2014, Corangamite CMA engaged Water Technology to undertake a study to identify options to improve the connectivity of the lower Barwon wetlands.



Barwon River EstuaryWatchers measuring pH



Anglesea River EstuaryWatchers using the Van Dorn sampler

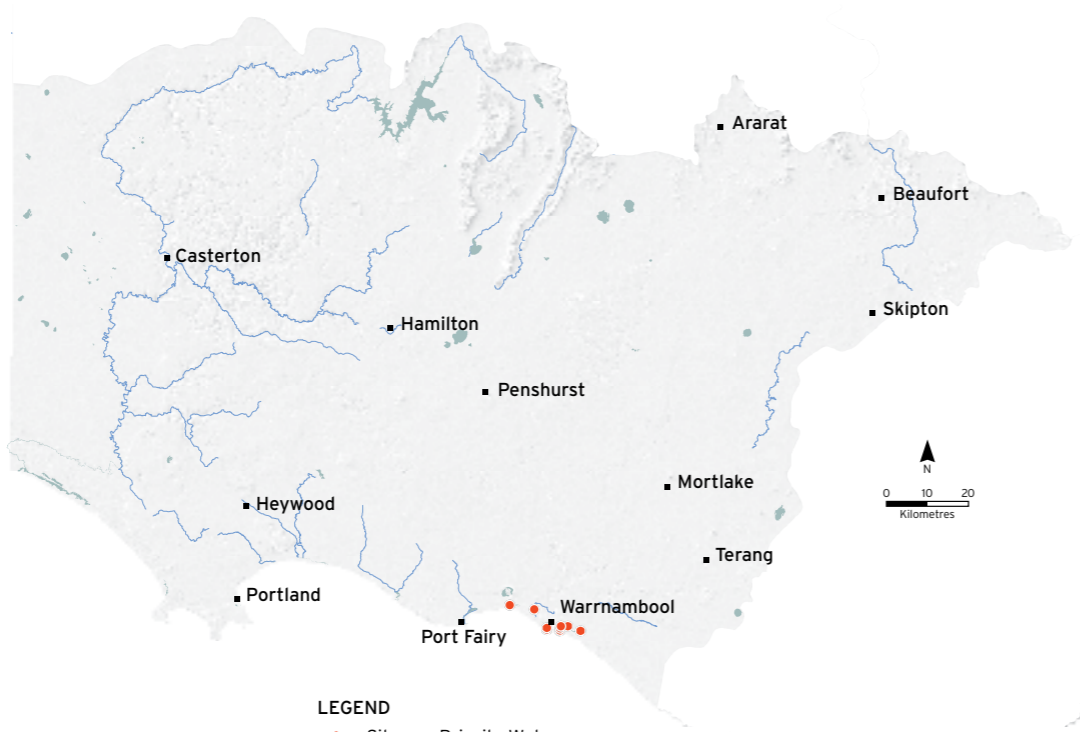
GLENELG HOPKINS ESTUARYWATCH



ESTUARYWATCH MONITORING SITES - GLENELG HOPKINS REGION



Glenelg Hopkins EstuaryWatch has one (0.05 FTE) coordinator deliver the program.



- LEGEND**
- Sites on Priority Waterways
 - Other Sites
 - ~ Priority Reaches
 - Priority Wetlands and Estuaries
 - Major Towns

ABOUT THE GLENELG HOPKINS ESTUARYWATCH PROGRAM

Active Groups	2
Active Sites	13
Active Volunteers	15
Event participation	People
Training	25
Presentation	-
Field day	-
Work shop	-
Conference	-
Meeting	-
Total	25

WHAT HAVE WE LEARNT:

- Documents published include:
- Hopkins River Estuary 2014, An interpreted summary of data: www.dropbox.com/s/s70erys04ays0h9/Hopkins%20River%202014.pdf?dl=0
 - Merri River Estuary 2014, An interpreted summary of data: www.dropbox.com/s/oycn8owp0jj9g/Merri_2014.pdf?dl=0
- Resources can be viewed at www.ghcma.vic.gov.au

MERRI RIVER ESTUARYWATCH BRINGS PEOPLE TOGETHER

Merri River Estuary Watcher, Dennis Taberner joined the Glenelg Hopkins Estuary Watch program in 2013 after responding to an ad in the local paper.

And he thought it would be a good chance to give back to the community and the environment.

The Merri River estuary is located near Warrnambool in southwest Victoria. The river has two openings to the sea, both artificially modified. Merri River Estuary Watch volunteers collect valuable observations on the condition of both openings.

The most notable change Dennis has observed is an increase in the size of the sand berm at Rutledge's cutting since first visiting the site.

The Merri River Estuary Watch group has ten volunteers. One of the things that excites Dennis the most about Estuary Watch is the "general camaraderie within the group" and he wishes other people knew "what all-round benefits can be gained, both from a personal and community viewpoint, by being involved in Estuary Watch".

One of the things that excites Dennis the most about Estuary Watch is the general camaraderie within the group.



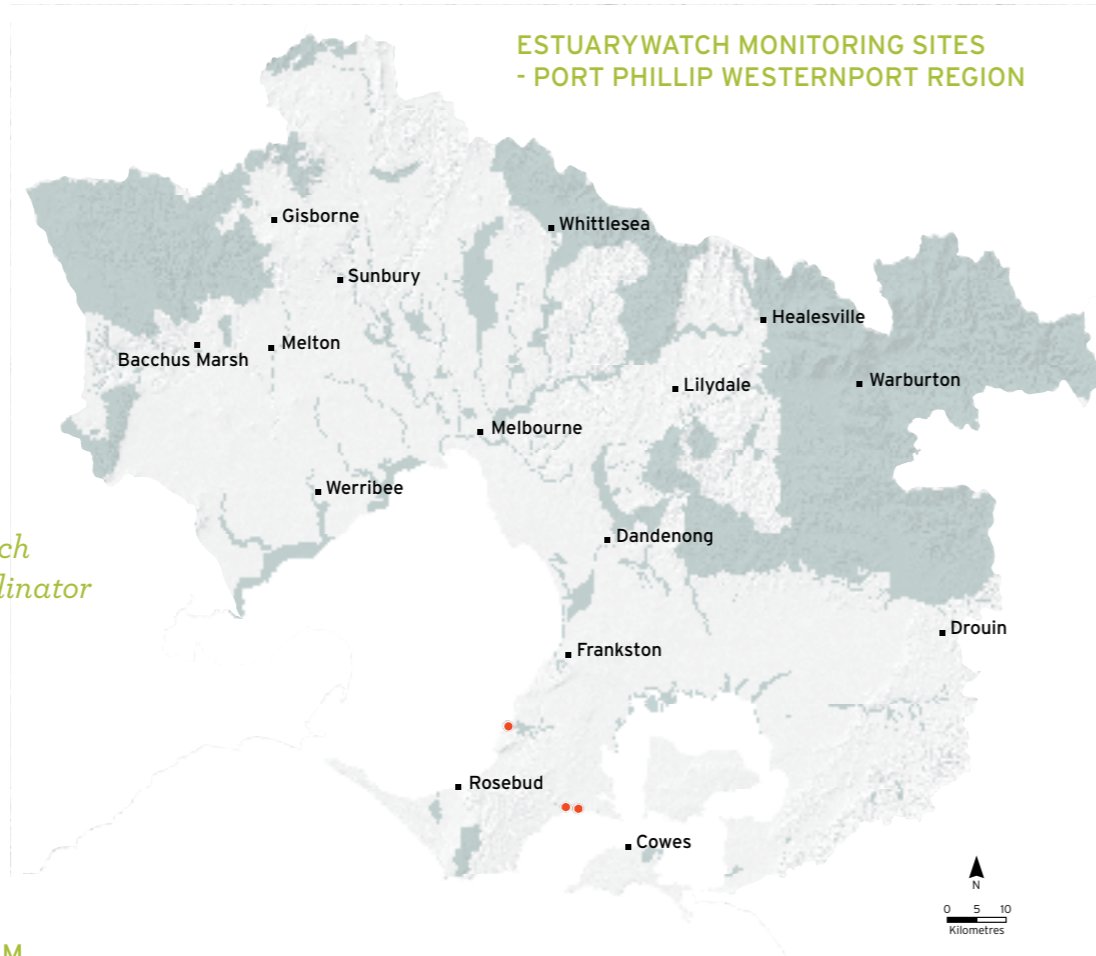
Hopkins River Estuary Watch conducting estuary mouth condition monitoring

Dennis calibrating monitoring equipment with the Merri River Estuary Watch group

MELBOURNE ESTUARYWATCH



Melbourne EstuaryWatch has one (0.2 FTE) coordinator deliver the program.



ABOUT THE MELBOURNE ESTUARYWATCH PROGRAM

Active Groups	2
Active Sites	9
Active Volunteers	6

Event participation	People
Training	-
Presentation	23
Field day	-
Work shop	8
Conference	-
Meeting	70
Total	101

WHAT HAVE WE LEARNT:

Documents published include:

- Waterways Local Update 2014-2015: www.melbournewater.com.au/aboutus/reportsandpublications/Waterways-Local-Updates/Documents/Mornington%20Peninsula%202014-2015.pdf

Resources can be viewed at www.melbournewater.com.au

- LEGEND**
- Sites on Priority Waterways
 - Melbourne Water Priority Areas
 - Major Towns

SOMETHING FISHY AT THE ESTUARIES UNMASKED NIGHT SEMINAR

Communities on the Mornington Peninsula attended an interesting presentation at an Estuaries Unmasked Night Seminar in March.

Fiona Warry, PhD candidate at the Water Studies Centre, Monash University, gave a presentation on fish and their role indicating estuarine health.

Fiona discussed the usefulness of fish as indicators of estuarine health due to their high trophic position in estuarine food webs, and their susceptibility to be influenced by a range of physical and environmental properties of water, including water quality and habitat availability.

The presentation explored the relationship between catchment land use, fish assemblages and trophic function.

An impressive 40 species of fish have been recorded in Balcombe Estuary, making it comparable to some of the best estuaries across the state.

Fiona's presentation sparked many inquisitive questions and discussion from the 23 people attending the event.

 40 species of fish have been recorded in Balcombe Estuary, making it comparable to some of the best estuaries across the state.



Fiona Warry presenting at the Balcombe Creek night seminar



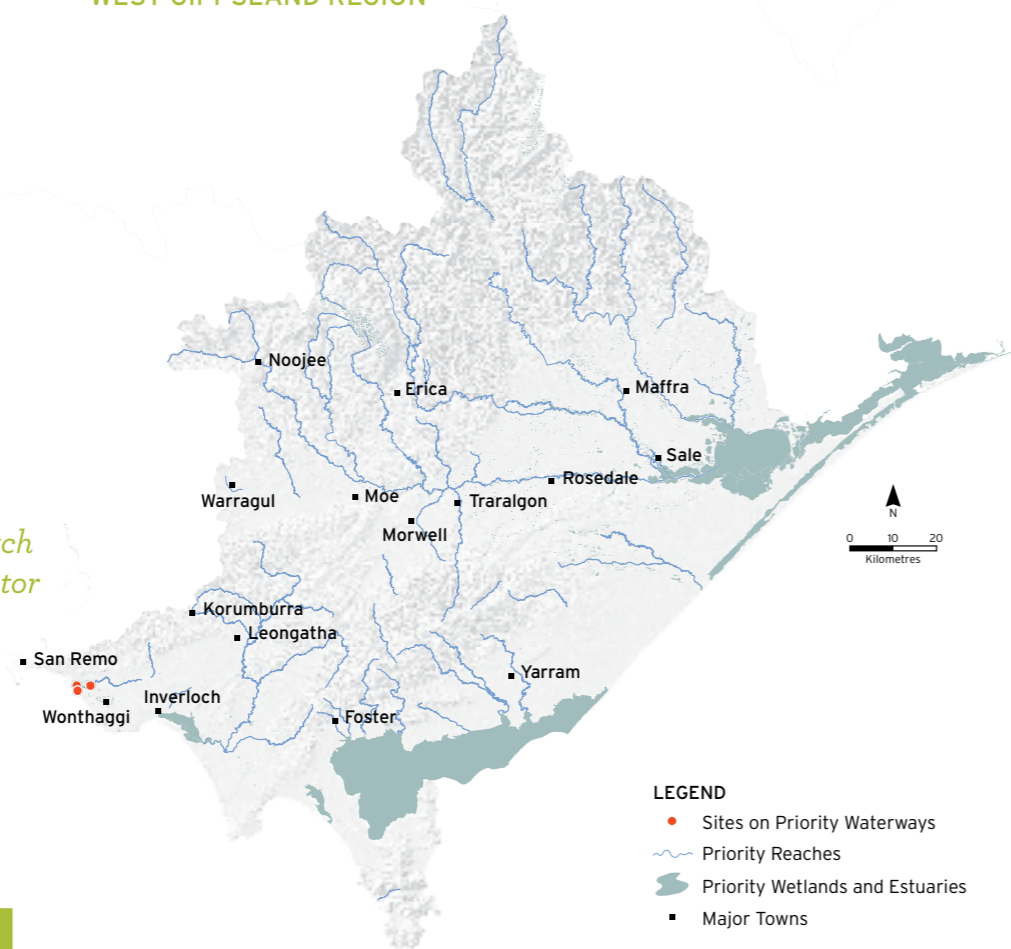
Geoff Hall conducting EstuaryWatch on Merricks Creek

WEST GIPPSLAND ESTUARYWATCH

ESTUARYWATCH MONITORING SITES - WEST GIPPSLAND REGION



West Gippsland EstuaryWatch has one (0.05 FTE) coordinator deliver the program.



ABOUT THE WEST GIPPSLAND ESTUARYWATCH PROGRAM

Active Groups	1
Active Sites	3
Active Volunteers	4

Event participation	People
Training	6
Presentation	-
Field day	50
Work shop	-
Conference	-
Meeting	-
Total	56

WHAT HAVE WE LEARNT:

A video was developed to showcase the Estuaries Unmasked event held at the Powlett River Estuary in May 2015.

The video can be viewed at <https://player.vimeo.com/video/130950767>



ESTUARYWATCH INFORMING ESTUARY MANAGEMENT

EstuaryWatch monitoring began at the Powlett River in March 2010.

The data collected, and the volunteer, community and stakeholder relationships established since then have greatly enhanced the West Gippsland CMA's (WGCMA) confidence and ability to manage estuary closure events, and the subsequent stakeholder communication.

EstuaryWatch data is used to assist in predicting the likelihood of estuary closures during dry years. And gathering a better understanding of the effect of river inflows and ocean conditions on water quality before, during and after these events.

The WGCMA also conducts the EstuaryWatch monitoring procedures at the established EstuaryWatch sites during closure events, but resourcing challenges often affect data collection consistency, particularly, before and after a closure event.

During the recent 2015 estuary closure, EstuaryWatch monitors increased monitoring efforts to gather additional data to assist the WGCMA.



EstuaryWatch data is used to assist in predicting the likelihood of estuary closures during dry years.



Powlett River estuary



Powlett River EstuaryWatch volunteers at work

WATERWATCH VICTORIA



THE WATERWATCH PROGRAM

Waterwatch Victoria has successfully engaged people with their local waterway since 1993, raising awareness about river health and waterway management.

In 2014-15, the staff delivering the Waterwatch program engaged with an astonishing 21,977 people at presentations, field days, meetings, conferences, workshops and training events.

ABOUT THE WATERWATCH COORDINATORS

Seventeen staff (11.45 FTE) coordinate and facilitate the Waterwatch program across nine Victoria regions. They are employed in CMAs, water authorities and councils. The Victorian Waterwatch Program coordinator (0.4 FTE) organised training days and meetings for the regional Waterwatch coordinators and facilitators.

ABOUT THE VOLUNTEER WATERWATCH MONITORS

The following numbers demonstrate the monetary value of Waterwatch volunteers' annual contribution.

Five-hundred and ninety-one volunteer monitors conducted water quality tests at 835 sites. The frequency of monitoring varied from monthly, quarterly and seasonal surveys, to event-based monitoring. If each Waterwatch site was monitored six times in a year, it would provide an estimated 5,010 assessments. These volunteers contributed 10,020 hours to care for waterways. At a rate of \$33.61 per hour¹, the economic value of the year's Waterwatch volunteer effort in 2014-15 is \$336,772.

ABOUT THE PLACES MONITORED

Forty-eight percent of Waterwatch monitoring takes place in identified priority reaches. The remaining sites are monitored for other purposes, including natural resource management activities with universities, councils and catchment projects.

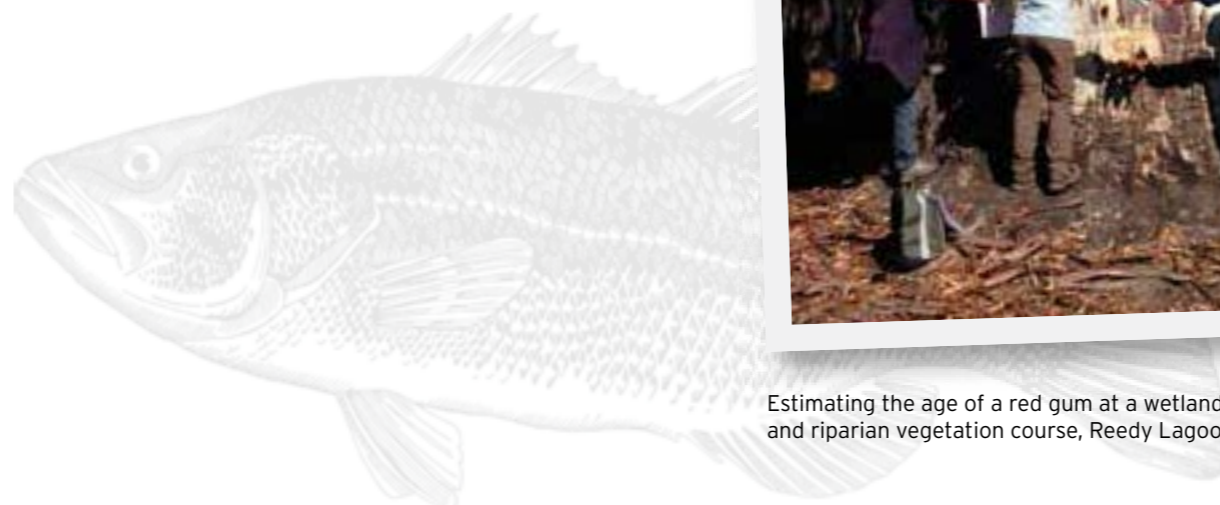
21,977 people attended presentations, field days, meetings, conferences, workshops and training events during 2014-15.

ABOUT THE DATA GATHERED

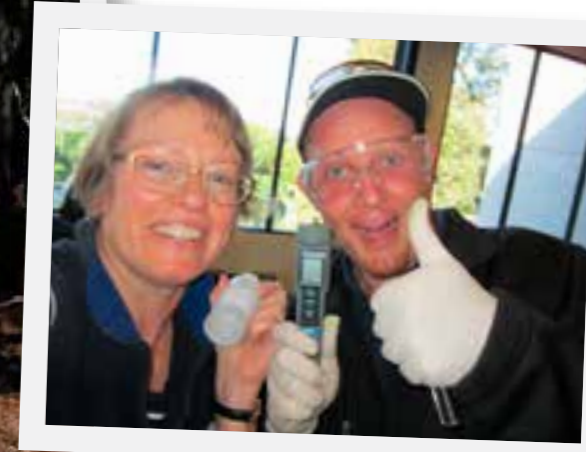
Waterwatch monitors provide highly credible data to waterway managers at standard three or above. In 2014-15, 85 per cent of water quality data collected and recorded in the Waterwatch Data Management System (WDMS) was standard three and four. To illustrate why data confidence is important, only standard three and four data generated by Waterwatch monitors was used to evaluate waterway condition in the Third Index of Stream Condition Report (ISC3), published in 2013.



Agreed Level Taxonomy (ALT) training at Werribee River, Meikles Point



Estimating the age of a red gum at a wetland and riparian vegetation course, Reedy Lagoon



Quality assurance testing with Waterwatch coordinators

WHAT HAVE WE LEARNT:

Presentation: "Credible data: The Waterwatch Victoria Quality Assurance Program" Australian Citizen Science Conference.

Documents published include:

- Plan for Waterwatch, 2015: www.vic.waterwatch.org.au/file/file/15%200417%20The%20Plan%20for%20WW%20Victoria.pdf
- MER for Waterwatch, 2015: www.vic.waterwatch.org.au/file/file/MER%20for%20Waterwatch%202015.pdf

The Waterwatch Victoria website and data portal can be viewed at www.vic.waterwatch.org.au

¹ Government of Victoria, The Economic Value of Volunteering in Victoria, 2012 www.volunteeringvictoria.org.au/wp-content/uploads/2012/02/The-Economic-Value-of-Volunteering-in-Victoria.pdf

CORANGAMITE WATERWATCH



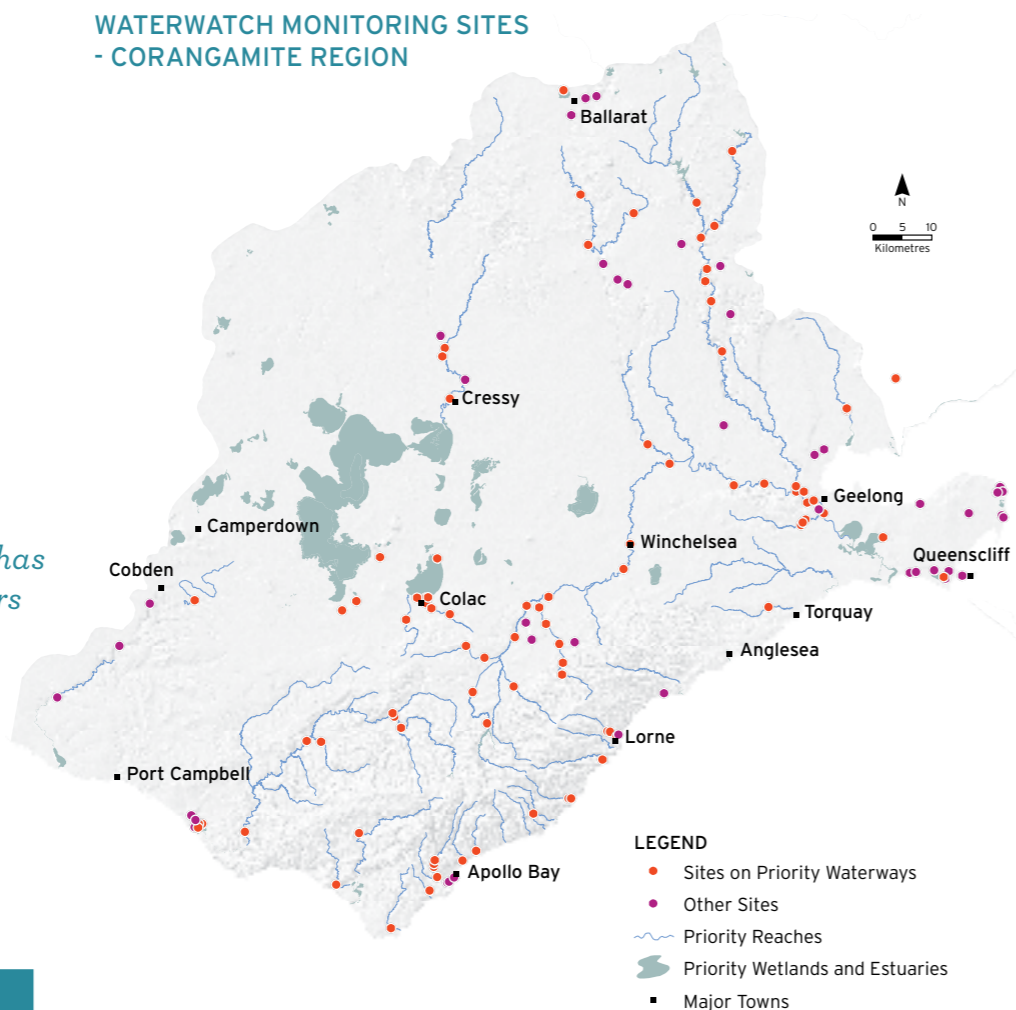
Corangamite Waterwatch has three (2.4 FTE) coordinators deliver the program.

ABOUT THE CORANGAMITE ESTUARYWATCH PROGRAM

Active Groups	21
Active Sites	127
Active Volunteers	75

Event participation	People
Training	171
Presentation	83
Field day	6,523
Work shop	40
Conference	-
Meeting	-
Total	6,817

WATERWATCH MONITORING SITES - CORANGAMITE REGION



WHAT HAVE WE LEARNT:

Documents published include:

- The quarterly *Watchout* newsletter for community and a monthly teacher update for schools engaged in the Waterwatch program
- Corangamite Waterwatch: testing the waters of citizen science in waterway management* (poster) S.Suter & A Marten, Australian Citizen Science Conference.

Resources can be viewed at www.ccma.vic.gov.au



CARING FOR OUR BAYS LITTER HOTSPOT PROJECT

An exciting new initiative is helping clean up Corio Bay and western Port Phillip Bay.

Corangamite Waterwatch and the Bellarine Catchment Network are working together on the Caring for our Bays Litter Hotspot Project, identifying litter hotspots in Geelong, Lara and towns on the Bellarine Peninsula.

The initiative aims to reduce litter, sediment and nutrients entering waterways and running into Corio Bay and western Port Phillip Bay.

Litter spoils the community enjoyment of our beaches, while sediments and nutrients potentially threaten significant species and the important Ramsar-listed Swan Bay.

Work so far includes water quality testing of major storm water channels Cuthbertson and Cowies Creek in Geelong's northern suburbs. Litter instream and on the banks of waterways is measured using the Local Litter Measurement Toolkit, counting litter type and quantity. These surveys provide a benchmark and help measure change.

The Waterwatch program continues promoting storm water education to the community and schools through its events and its schools program, and in partnership with the EstuaryWatch team's Estuaries Unmasked events.

The program brings together key stakeholders, who are working with and encouraging community participation to address litter hotspots.

Important program outcomes include:

- increasing community enjoyment, and improving perceptions of Corio Bay.
- protecting waterways and the environment of significant species,
- providing cleaner habitat for breeding fish.



Work so far includes water quality testing of major storm water channels Cuthbertson and Cowies Creek in Geelong's northern suburbs.

Caring for Our Bays encourages people to take action and pride in their local environments to achieve healthier river, estuarine and marine systems.

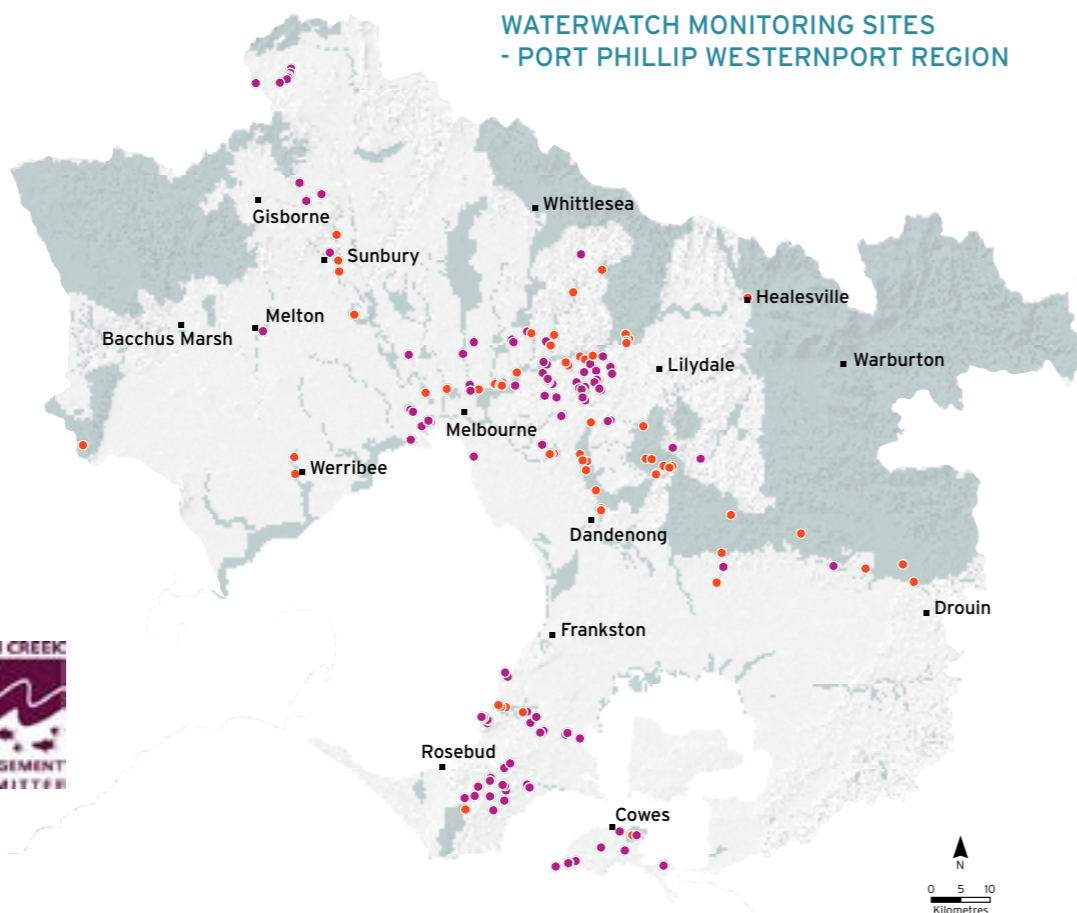


Litter collection at Cowies Creek with schools and community monitors

Geelong Advertiser 22/04/15

MELBOURNE WATERWATCH

WATERWATCH MONITORING SITES - PORT PHILLIP WESTERNPORT REGION



ABOUT THE MELBOURNE WATERWATCH PROGRAM

Active Groups	82
Active Sites	235
Active Volunteers	277

Event participation	People
Training	88
Presentation	6,369
Field day	1,035
Work shop	1,100
Conference	130
Meeting	93
Total	8,815

Melbourne Waterwatch has six (5.3 FTE) coordinators deliver the program.

WHAT HAVE WE LEARNT:

Documents published include:

- *Partnership between authority and citizen scientists delivers unexpected results* (poster) P. Crawford-Wilson & E. Tsyrlin, Australian Citizen Science Conference.

Resources can be viewed at www.melbournewater.com.au

LEGEND

- Sites on Priority Waterways
- Other Sites
- Melbourne Water Priority Areas
- Major Towns

PLATYPUS CENSUS & EDNA TRIAL

Platypus are one of our most notable freshwater inhabitants, but they are extremely shy and difficult to study.

Our knowledge of platypus distribution is currently limited to platypus sightings, which are rare, or net surveys are resource hungry and costly. Recent technological advances in environmental DNA (eDNA) sampling mean we can now detect the presence of platypus using a filtered water sample.

Citizen scientists worked with Melbourne Water's Waterwatch program during spring to sample platypus on the Werribee River and Monbulk Creek.

The trial included five sites on Werribee River, detecting platypus at three locations. Platypus were confirmed at two locations on Monbulk Creek, with trace amounts of DNA detected below the confluence with Ferny Creek.

eDNA collected by citizen scientists shows great promise in filling in some of the gaps in our knowledge at the same time involving the wider community in waterway research.

Platypus were confirmed at two locations on Monbulk Creek, with trace amounts of DNA detected below the confluence with Ferny Creek.



Josh Griffiths training citizen scientists to sample platypus eDNA

Sampling platypus eDNA

WIMMERA WATERWATCH



The Wimmera Waterwatch program does not have dedicated coordinators or facilitators.

ABOUT THE WIMMERA WATERWATCH PROGRAM

Active Groups	1
Active Sites	25
Active Volunteers	18

Event participation	People
Training	45
Presentation	132
Field day	-
Work shop	-
Conference	-
Meeting	8
Total	185

WATERWATCH MONITORING SITES - WIMMERA REGION



- LEGEND**
- Sites on Priority Waterways
 - Other Sites
 - ~ Priority Reaches
 - Priority Wetlands and Estuaries
 - Major Towns

WHAT HAVE WE LEARNT:

The Wimmera Waterwatch program aims to increase the knowledge and skills of the community.

Resources can be viewed at www.wcma.vic.gov.au



JEPARIT WATERWATCH

The Jeparit Waterwatch group celebrated 20 years of monthly monitoring with a community event at Jeparit's Wimmera Mallee Pioneer Museum in May 2015.

The group, started by retired farmers, has seen many changes in its membership and in the condition of the lower Wimmera River during that time.

Wimmera CMA CEO Dave Brennan and Waterwatch Victoria Coordinator Deirdre Murphy recognised the group's effort making presentations to members and commending them on their outstanding achievement.

Two founding members, Jeanie Clark and David Livingstone, spoke about the group's journey and some of the dramatic changes that have occurred in the lower Wimmera River during the 20-year period.

While the group's milestone is something to celebrate, it unfortunately coincides with a return to extremely dry conditions in the Wimmera region.

The broader community is, however, fortunate to have this dedicated and experienced group of volunteers on hand to monitor the response of the river through this challenging period.



The group has been monitoring the condition of the lower Wimmera River for more than 20 years.



Jeparit Waterwatch Group celebrate 20 years

MALLEE WATERWATCH



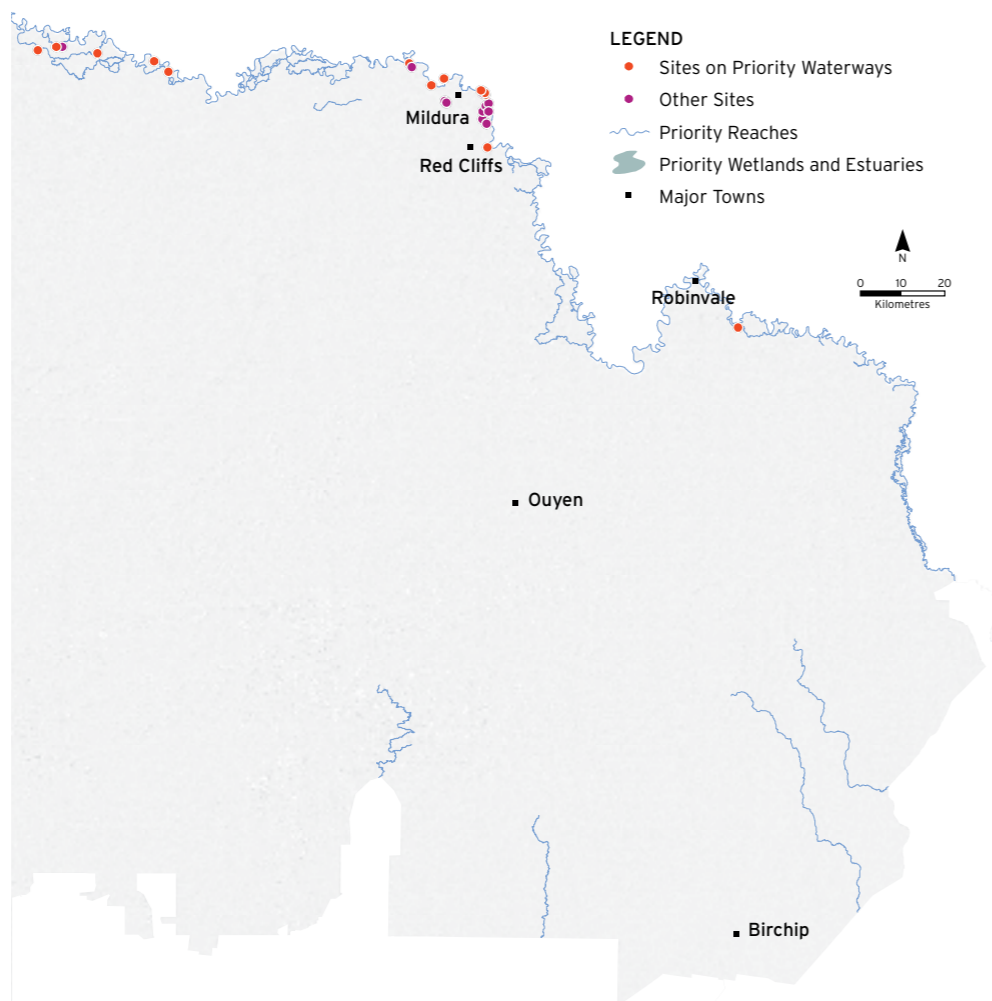
Mallee Waterwatch has one (0.5 FTE) coordinator deliver the program.

ABOUT THE MALLEE WATERWATCH PROGRAM

Active Groups	3
Active Sites	29
Active Volunteers	18

Event participation	People
Training	18
Presentation	18
Field day	550
Work shop	40
Conference	60
Meeting	26
Total	712

WATERWATCH MONITORING SITES - MALLEE REGION



WHAT HAVE WE LEARNT:

The Mallee Waterwatch program aims to increase the knowledge and skills of the community.

Resources can be viewed at www.malleecma.vic.gov.au

MALLEE WATERWATCH COMMUNITY ENGAGEMENT

Mallee Waterwatch has had a busy year attending a number of community events that included presentations and displays on salinity, pollution, flooding, wildlife, and environmental watering.

Waterwatch joined a number of key local agencies for an event for National Water Week at the Mildura Show teaching primary school students about water and the environment.

Five-hundred school children experienced a macro invertebrate display and shared in a story of pollution and waterway health.

Waterwatch presented a salinity model and macro invertebrate display at a Catch-a-Carp Day event at Sandilong Creek. The event was to help decrease carp populations in the creek, and raise awareness carp's impact on waterway health.

Waterwatch attended the Lake Cullulleraine Music Festival, an event designed to showcase the Millewa region. This event is a diverse community festival with music, sport, children's activities, displays, and demonstrations, food along with art, environment and musical workshops.



Five-hundred school children experienced a macro invertebrate display and shared in a story of pollution and waterway health.



Jane White and Xavier Murphy investigate aquatic macro-invertebrates

NORTH CENTRAL WATERWATCH

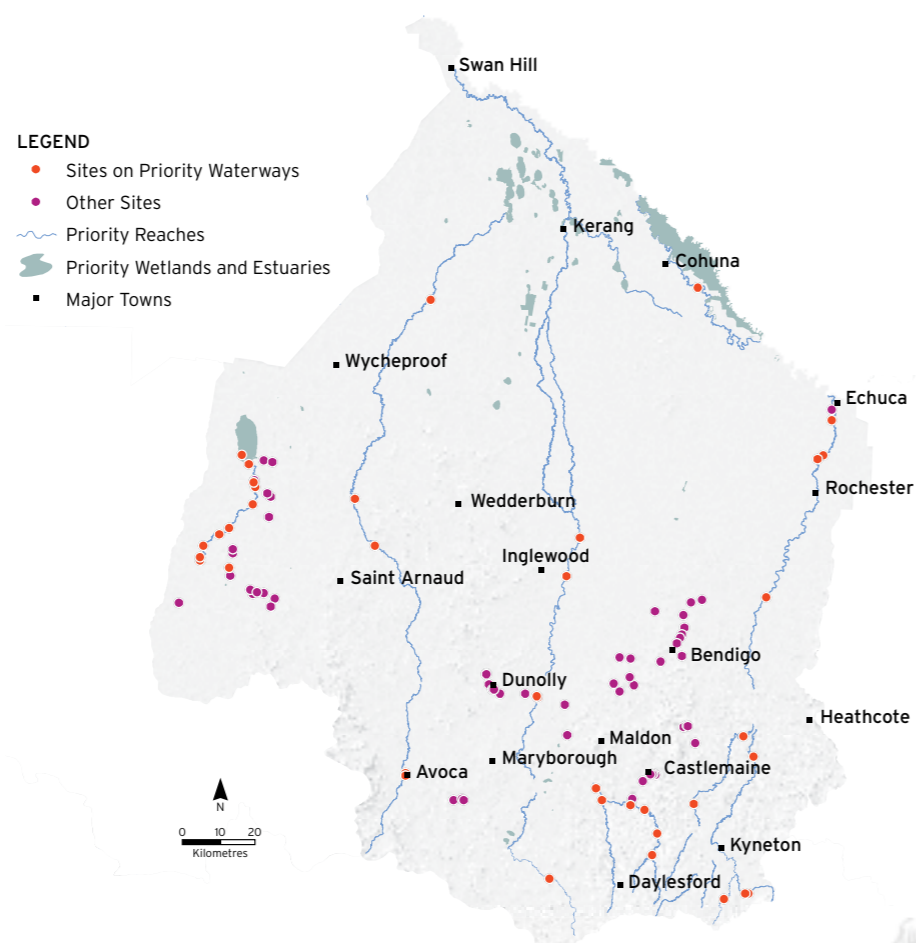
WATERWATCH MONITORING SITES - NORTH CENTRAL REGION



North Central Waterwatch has one (1 FTE) coordinator deliver the program.

LEGEND

- Sites on Priority Waterways
- Other Sites
- ~ Priority Reaches
- Priority Wetlands and Estuaries
- Major Towns



ABOUT THE NORTH CENTRAL WATERWATCH PROGRAM

Active Groups	1
Active Sites	98
Active Volunteers	56

Event participation	People
Training	511
Presentation	200
Field day	150
Work shop	45
Conference	-
Meeting	-
Total	906

WHAT HAVE WE LEARNT:

The North Central Waterwatch program aims to increase the knowledge and skills of the community, supporting them to become custodians of local waterways.

www.nccma.vic.gov.au



RIVER DETECTIVES: A SCHOOL EDUCATION PROGRAM

Our River Detectives Program delivers professional development events for teachers at schools across the region.

The events enable teachers to participate in training sessions so they are equipped with knowledge, resources and equipment to deliver the program.

Cathy McCallum, Waterwatch volunteer at Baringhup Primary School, said "Since the Baringhup Primary School has become involved with the River Detectives program a number of the students have become proficient in the testing procedure. Students are now engaged with the river and have a connection with the (river) environment. I don't believe they had this connection prior to becoming River Detectives."

A sustainability teacher at two local primary schools:

"One of the greatest thrills I get is watching kids interact with nature. There is a quote I strongly believe in 'Children need to touch nature... and be touched by it!'. We try to get the kids down to the creek as much as possible to strengthen their connectedness with their local waterway.

"It doesn't take long before the kids realise that the survival of living things are affected by the physical conditions of their environment. What is even more exciting is the fact that these kids are out there now doing things to help their local waterways."



Since becoming involved in the Program a number of students at Baringhup Primary School are now proficient in the testing procedure.



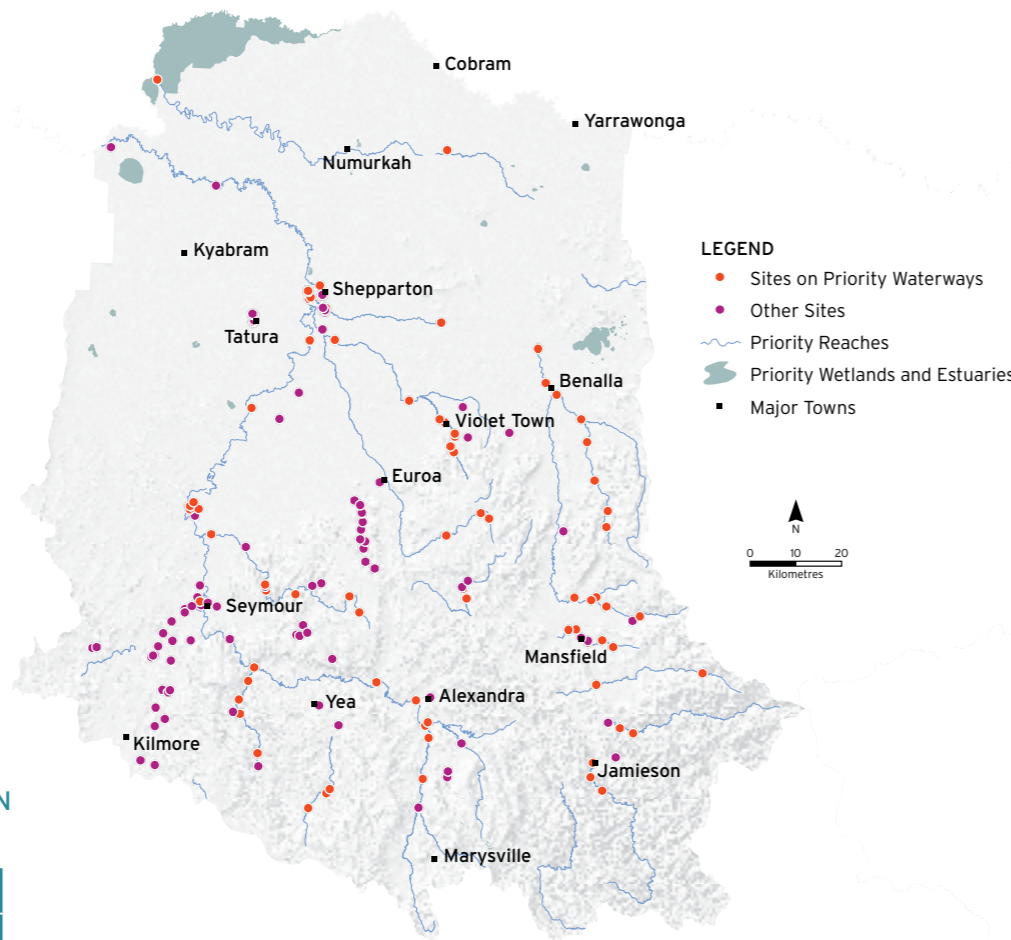
The River Detectives of Bullarto Primary School are testing the water quality of Kangaroo Creek

GOULBURN BROKEN WATERWATCH

WATERWATCH MONITORING SITES - GOULBURN BROKEN REGION



Goulburn Broken Waterwatch has four (2 FTE) coordinators deliver the program.



ABOUT THE GOULBURN BROKEN WATERWATCH PROGRAM

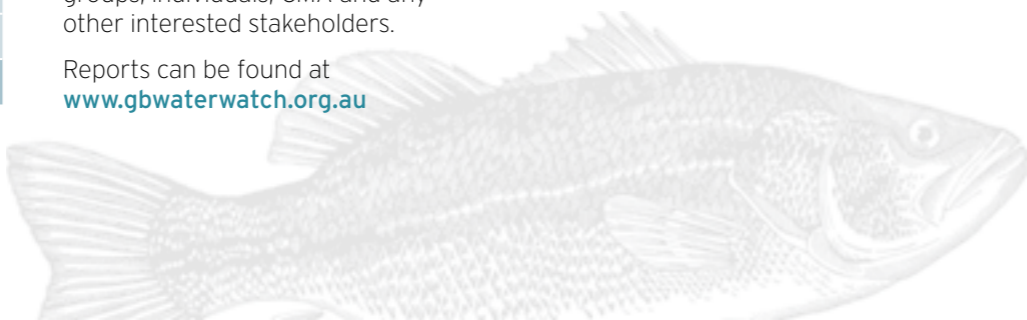
Active Groups	1
Active Sites	186
Active Volunteers	47

Event participation	People
Training	27
Presentation	2,668
Field day	400
Work shop	-
Conference	-
Meeting	-
Total	3,095

WHAT HAVE WE LEARNT:

Goulburn Broken Waterwatch prepares Water Quality Monitoring Reports as requested for monitoring groups, individuals, CMA and any other interested stakeholders.

Reports can be found at www.gbwaterwatch.org.au



LONG TERM INTERVENTION MONITORING PROGRAM

In 2014, Monash University Victoria, Water Sciences Centre approached Goulburn Broken Waterwatch to assist with the collection of data and samples from the Lower Goulburn River.

This project is known as the Long Term Intervention Monitoring Program.

It is a five-year project that requires Waterwatch to:

1. Test water quality at four sites in the lower Goulburn River
2. Collect samples for laboratory analysis
3. Download dissolved oxygen data from loggers at each site.

The key objectives of the program are to determine the effects of environmental watering on the rates of instream food production and ecosystem respiration within the Goulburn River.

Dissolved oxygen loggers were placed at four separate locations downstream of the Goulburn Weir at Nagambie and upstream of the Goulburn and Murray River confluence.

Two light loggers were also placed at Nagambie and Shepparton to monitor light levels. Light has an effect on the food and respiration rates in waterways.

Parameters measured by Waterwatch and the university laboratory include:

- Dissolved oxygen (% saturation and mg/L)
- Electroconductivity
- pH
- Temperature
- Chlorophyll-a
- Total phosphorus, Total nitrogen
- Filtered phosphorus and nitrogen and ammonium
- Dissolved organic carbon.



The Long Term Intervention Monitoring Program is a five-year project covering four sites in the lower Goulburn River.

Our contribution to research projects within our catchment and the challenge of being flexible will have positive outcomes for Goulburn Broken Waterwatch.



Water quality testing equipment



Waterwatch monitors Rita Seethaler and Julia Foletta prepare for quality assurance assessment

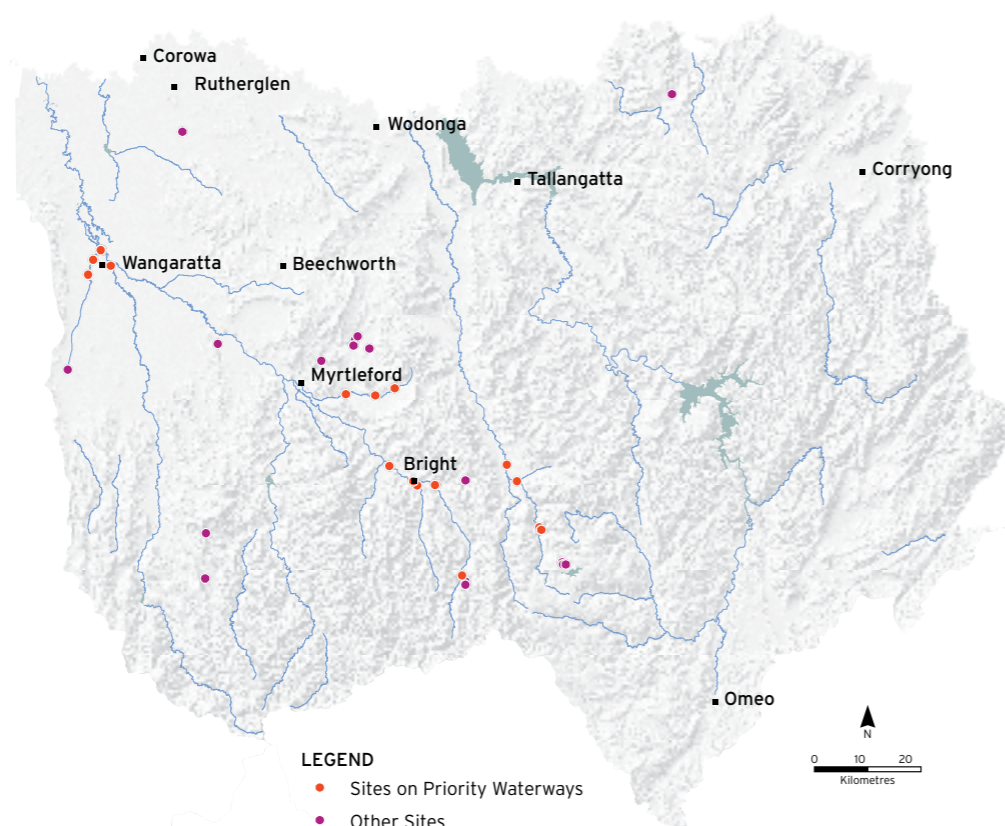
NORTH EAST WATERWATCH

WATERWATCH MONITORING SITES - NORTH EAST REGION

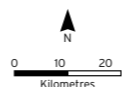


NORTH EAST CATCHMENT MANAGEMENT AUTHORITY

North East Waterwatch has one (0.2 FTE) coordinators deliver the program.



- LEGEND**
- Sites on Priority Waterways
 - Other Sites
 - ~ Priority Reaches
 - ~ Priority Wetlands and Estuaries
 - Major Towns



ABOUT THE NORTH EAST WATERWATCH PROGRAM

Active Groups	12
Active Sites	37
Active Volunteers	44

Event participation	People
Training	79
Presentation	987
Field day	-
Work shop	15
Conference	-
Meeting	-
Total	1,081

WHAT HAVE WE LEARNT:

- Waterwatch North East contributed to interpretive signage about Wareena Wetlands in Wangaratta. This was a collaborative partnership with the Plume Positive Project to raise awareness about issues affecting our waterways
- 45 Annual QAQC reports were produced and provided to Waterwatch Volunteers
- One water quality report for five sites on One Mile Creek, Wangaratta
- Water quality data reports are produced when requested by stakeholders and are available on the NECMA website
- Waterwatch NE provided content throughout the year for social media posts, media releases and the NECMA NRM newsletter.

Reports can be found at www.necma.vic.gov.au

VOLUNTEER PROFILE: PHIL HAWKINS, MUDGEONGA

Phil Hawkins is a member of the Mudgegonga Landcare Group.

In 2007 members of this dedicated group began monthly monitoring of water quality at waterways flowing into the Ovens River after concerns of poor water quality in the area.

The group have monitored through extreme events including drought, bushfires and floods. Phil has undertaken Waterwatch training and completed ALT (Agreed Level Taxonomy) accreditation and monitors macroinvertebrates at five sites twice a year.

"It is interesting to see the change through time. When I first started monitoring it was during the drought and all I would find were small threadlike worms, there was no diversity. The waterbug community seemed to recover faster after the fires than the drought.

"After a few good seasons there is so much more diversity now. I continue to monitor because it helps the community to know what state their waterways are in so they can undertake actions to improve water quality", said Phil.



When I first started monitoring it was during the drought. After a few good seasons there is so much more diversity.

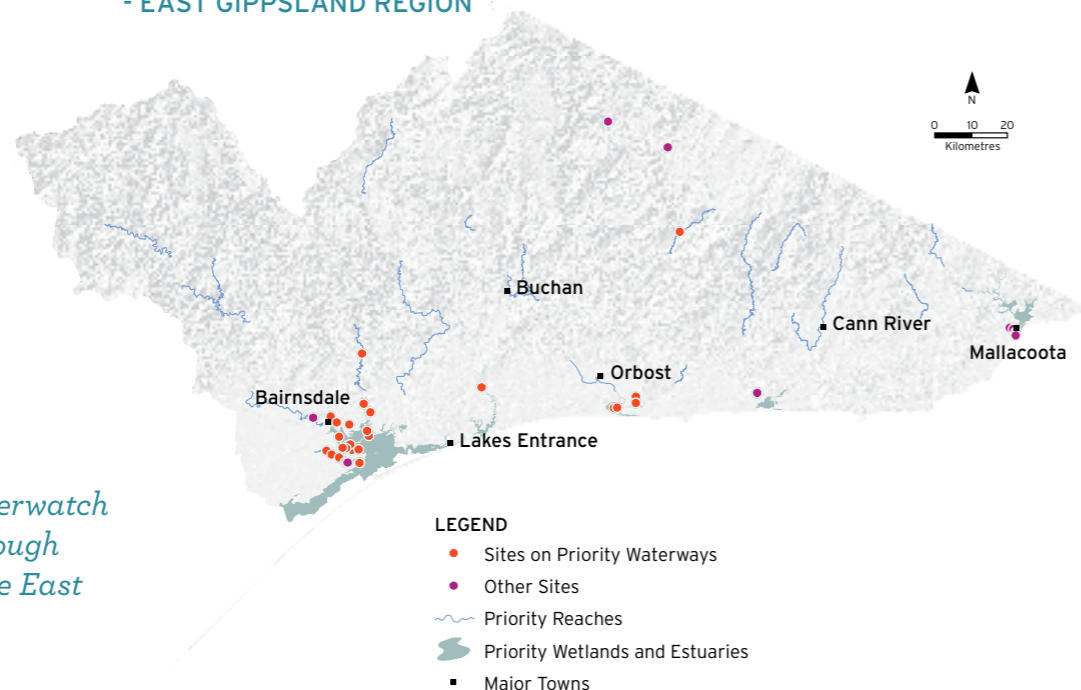


North East Waterwatch volunteers participating in macroinvertebrate sampling training in Wangaratta



EAST GIPPSLAND WATERWATCH

WATERWATCH MONITORING SITES - EAST GIPPSLAND REGION



- LEGEND**
- Sites on Priority Waterways
 - Other Sites
 - Priority Reaches
 - Priority Wetlands and Estuaries
 - Major Towns

The East Gippsland Waterwatch program is delivered through the Water Program by the East Gippsland CMA.

ABOUT THE EAST GIPPSLAND WATERWATCH PROGRAM

Active Groups	3
Active Sites	70
Active Volunteers	34
Event participation	People
Training	5
Presentation	-
Field day	-
Work shop	120
Conference	-
Meeting	-
Total	125

WHAT HAVE WE LEARNT:

The East Gippsland Waterwatch program aims to increase the knowledge and skills of the community.

Resources can be viewed at www.egcma.com.au



WATERWATCH MONITORS FORGE CREEK

Forge Creek flows along the Red Gum Plains and is commonly described as a chain of ponds.

The creek flows into the internationally significant, Gippsland Lakes. Members of Romawi Landcare Group monitor Forge Creek each month. The water quality data has showed peaks in nutrients.

Romawi Landcare Group is working with East Gippsland Water, East Gippsland Shire, Gippsland Plains Conservation Management Network and East Gippsland CMA to find and manage the source.



The water quality data for Forge Creek, collected by members of Romawi Landcare Group, has showed peaks in nutrients.

NICHOLSON SCHOOLS DAY

Each year the East Gippsland CMA attends the Nicholson River Schools Day.

Volunteers from the Nicholson Angling Club organise the day and bring together Waterwatch, Fishcare, Victoria Police and local fishing experts to provide students with an educational day about the environment, fish and fishing.

Students had an opportunity to catch fish and bugs and look at them close up through a microscope.

The students found shrimp, pipefish, water boatmen, backswimmers and lots of other exciting creatures.

This year the event involved four local schools and 120 students. The East Gippsland CMA Waterwatch team talked to the students about the bugs living in the river, and discussed the importance of water bugs in the food web.



Students catching water bugs as part of the Nicholson Schools Day organised by the Nicholson Angling Club

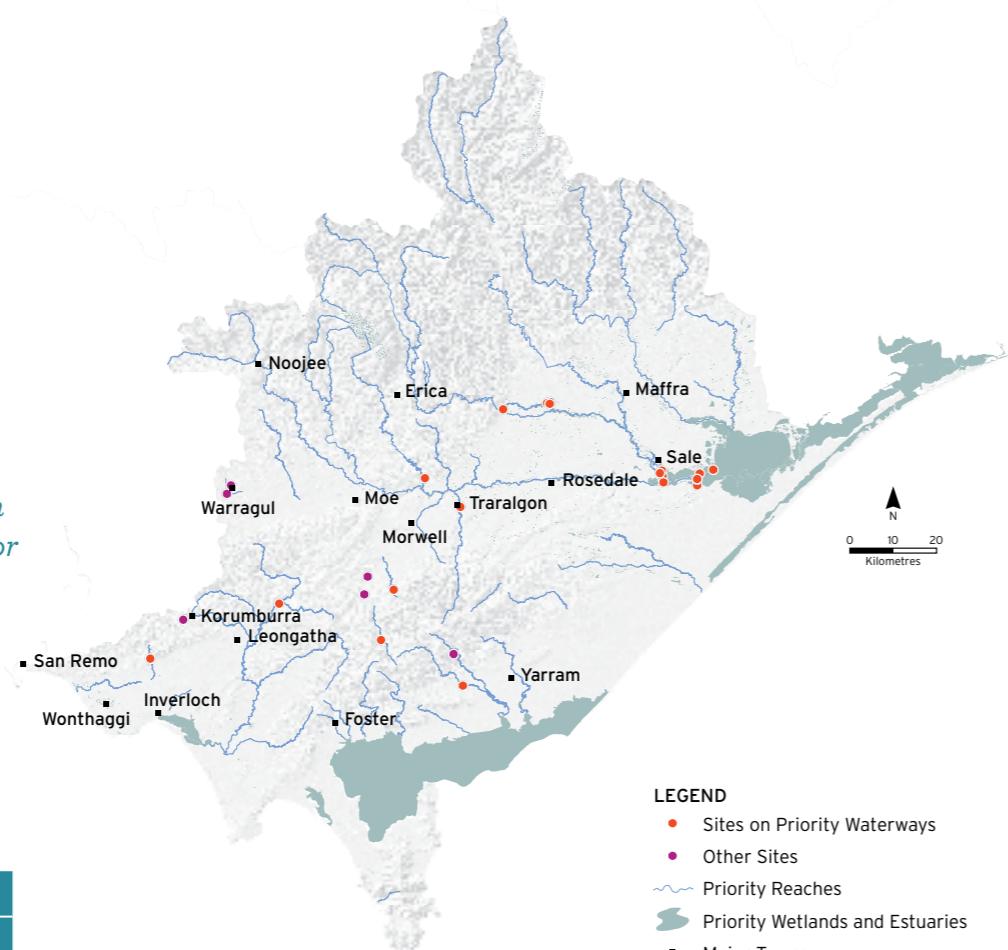
Forge Creek is monitored by the Romawi Landcare Group every month

WEST GIPPSLAND WATERWATCH

WATERWATCH MONITORING SITES - WEST GIPPSLAND REGION



West Gippsland Waterwatch has one (0.1 FTE) coordinator deliver the program.



- LEGEND**
- Sites on Priority Waterways
 - Other Sites
 - ~ Priority Reaches
 - Priority Wetlands and Estuaries
 - Major Towns

ABOUT THE WEST GIPPSLAND WATERWATCH PROGRAM

Active Groups	6
Active Sites	28
Active Volunteers	22

Event participation	People
Training	23
Presentation	-
Field day	188
Work shop	-
Conference	-
Meeting	30
Total	241

WHAT HAVE WE LEARNT:

West Gippsland developed a Waterwatch instructional video in 2014-15 to enable existing volunteers to carry out online refresher sessions and others to learn how to set up their own programs in non-priority areas.

View the video here: www.wgcma.vic.gov.au/getting-involved/waterwatch



WATERWATCH ENGAGING PAST AND PRESENT

The West Gippsland Waterwatch program has found an innovative way to address the challenge of shrinking resources.

In 2014-15, with only a small amount of funding and minimal support time available to assist those already involved in monitoring, Waterwatch adopted a new approach to teaching people about the program.

This led to developing the West Gippsland Waterwatch instructional video. This video series has enabled those interested in Waterwatch monitoring in non-priority areas (i.e. schools, community members, Landcare Groups), to set up their own monitoring programs, and begin building their capacity and understanding of catchment land use on the health of their waterway.

With such a high level of support, knowledge and experience available in our region, from past and present Waterwatch volunteers, coordinators and facilitators, it was very easy to find people to assist in developing this video series.

Please check it out ([link on opposite page](#)).



West Gippsland Waterwatch developed a video series to enable those interested in Waterwatch monitoring to set up their own monitoring programs.



Waterwatch Volunteers at the Avon River

ESTUARYWATCH & WATERWATCH ANNUAL ACHIEVEMENTS REPORT 2014-15

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To read more about the achievements of EstuaryWatch and Waterwatch Victoria visit www.vic.waterwatch.org.au or www.estuarywatch.com.au

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