

About the Estuary



Wye River estuary mouth on a summers day

Wye River has a short steep catchment. Its journey begins in the Otway Ranges and enters the sea at the Wye River township. Wye River is 15km west of Lorne on the Great Ocean Road.

The Wye River has high environmental, social and economic value. A significant environmental asset of Wye River is the Australian Grayling, a fish species considered Vulnerable on the *Environment Protection and Biodiversity Conservation Act 1999* list. Wye River is also home to the Azure Kingfisher, easily identified by its bright orange-red belly and azure blue head and neck.

Wye River is a popular spot for camping, picnicking, sightseeing, surfing and swimming.

WYE RIVER ESTUARY 2016

An interpreted summary of data

Date range:
01.01.2016 – 31.12.2016

Summary of data



This brochure summarises twelve months of the EstuaryWatch estuary mouth condition data. Wye River EstuaryWatch volunteers record observations and take photos of the estuary mouth twice a month. In 2016, volunteers conducted monitoring sessions in 12 of the 12 months.

The Wye River estuary is an intermittently open estuary. The estuary was recorded as closed for most of January and again from late February to early March. Estuary closures were recorded at many estuaries across Victoria in 2016. On the Otway Coast many of the estuaries have small and steep catchments, over the summer months when rainfall inputs are usually very small, significantly reduced river flows can lead to the closure of the estuary mouth. Many of the small Otway Coast estuaries have settlements and campgrounds on the floodplain and slopes of the estuaries, this can lead to increases nutrient and bacterial inputs such as E.coli from leaking or poorly maintained septic tanks. Over the summer months, during the holiday period these inputs pose a potential risk to estuary users. Increased nutrient inputs can lead to dangerous algal blooms and E.coli bacterial contamination can lead to severe illness in people. E.coli levels are monitored by the Colac Otway Shire over the summer period. In January the estuary was closed for recreational activities due to high bacteria levels. EstuaryWatch records on the Wye River estuary extend from 2012 and can be viewed at www.estuarywatch.org.au.

Estuary Fact File

Type of Estuary:
Riverine

Location: -38.63425,
143.89102

Nearest town: Wye River

Estuary length:
0.493km

River length: 10.872km

Mouth state:
Intermittently open

Description: Wye River is located approximately 15km west of Lorne. It has a short steep catchment and relatively short estuary.

Threats to estuary health

Threats to the Wye River estuary

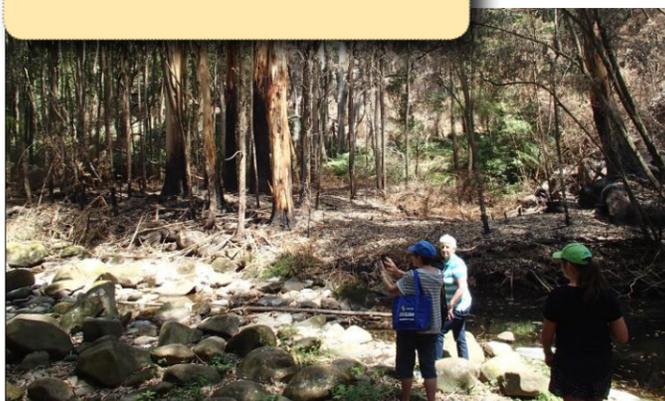
- Bank instability
- Degraded estuarine vegetation
- Disturbance of acid sulphate soils

What can you do?



Wye River EstuaryWatch volunteer Yvonne with EstuaryWatch Coordinator Rose Herben, Waterwatch Coordinator Diedre Murphy and EPA Victoria staff.

- Become a Wye River EstuaryWatcher or Waterwatcher www.ccma.vic.gov.au
- Register the estuary as a clean-up site on Clean Up Australia Day. cleanupaustaliaday.org.au
- Join a local environment group such as Wye to Wongarra Landcare Group. soln.org/friends-of-southern-otway-landcare/
- Share what you have learnt from this annual summary with a friend or family member.



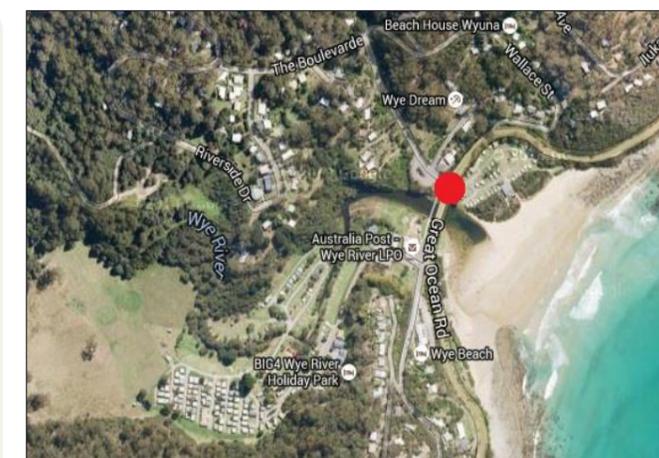
Estuarywatch volunteers inspect the dry bed of the Wye River upstream of the caravan park.



EstuaryWatch is a community based estuarine monitoring program, aiming to:

Raise awareness and provide educational opportunities to the community in estuarine environments, and enable communities and stakeholders to better inform decision making on estuarine health.

EstuaryWatch volunteers are supported by EstuaryWatch coordinators. Volunteers meet with their coordinator every six months to conduct Quality Assurance/Quality Control (QA/QC) refresher training. These sessions ensure that EstuaryWatch monitoring methods are consistent across the state and data collected by volunteers is credible.



EstuaryWatch monitoring site

Corangamite Catchment Management Authority

64 Dennis St (PO Box 159) Colac Victoria 3250

(T) 03 5232 9100 (F) 03 5232 2759

(E) info@ccma.vic.gov.au

www.ccma.vic.gov.au



For all four monitoring sessions chosen for the Estuary Snapshots, two photo point photos from the Great Ocean Road Bridge and estuary mouth condition observations are displayed. A summary of Waterwatch water quality data conducted from the fishing platform upstream of the playground (site CO_WYE100) is also provided for each month.

● fresh water ● brackish water ● salt water ● sediment

Date: 30.01.2016 Estuary mouth state: CLOSED



EstuaryWatch mouth observations on 16.01.2016
Water level: 1.45m AHD
Sea state: Smooth
Wind strength: Light breeze
Waterwatch water quality monitoring on 29.01.2016
Dissolved Oxygen per cent saturation: 80%
Turbidity: <10NTU
pH: 7.5
Salinity: < 2ppt
Water Temperature: 18°C

●

Date: 5.06.2016 Estuary mouth state: OPEN



EstuaryWatch mouth observations
Water level: 1.40m AHD
Sea state: Moderate
Wind strength: Calm
Waterwatch water quality monitoring on 4.06.2016
Dissolved Oxygen per cent saturation: 87%
Turbidity: 1 NTU
pH: N/A
Salinity: < 2ppt
Water Temperature: 14°C

●

Date: 18.09.2016 Estuary mouth state: OPEN



EstuaryWatch mouth observations on 4.09.2016
Water level: 1.57m AHD
Sea state: Smooth
Wind strength: Light air
Waterwatch water quality monitoring on 4.09.2016
Dissolved Oxygen per cent saturation: 83%
Turbidity: 0.9 NTU
pH: 7.5
Salinity: < 2ppt
Water Temperature: 12°C

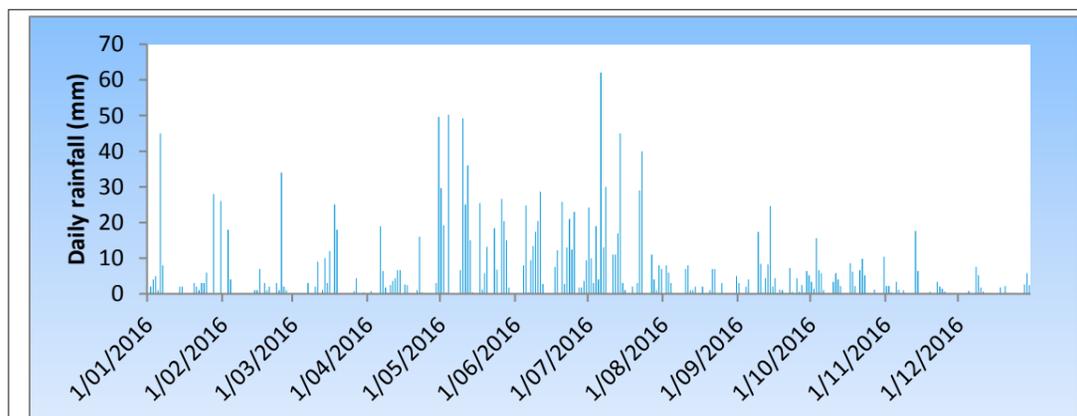
●

Date: 4.12.2016 Estuary mouth state: OPEN



EstuaryWatch mouth observations
Water level: 1.40m AHD
Sea state: Slight
Wind strength: Gentle breeze
Waterwatch water quality monitoring
Dissolved Oxygen per cent saturation: 92%
Turbidity: 1.0 NTU
pH: 7.2
Salinity: < 2ppt
Water Temperature: 18°C

●



Daily rainfall for 2016 recorded at Mt Sabine rain gauge (Site 90183). The highest total daily rainfall was recorded on July 6 2016 (62mm). Data sourced from DELWP.

Water quality guidelines for riverine estuaries

In 2011 the Environmental Protection Authority (EPA) established a framework for assessing the environmental condition of riverine estuaries. These guidelines can be used to assist management decisions to protect or improve the health of estuaries.

A broad range of estuary types were used to develop the guidelines.

Keep in mind that not all Victorian estuaries have been sampled and measurements have not been collected under all environmental conditions — for example, following flooding bushfires or storm surges.

Below is a table to assist you to interpret the EstuaryWatch data discussed in this summary. The guidelines detail what you would expect from a single monitoring session on an estuary in Victoria.

INDICATOR	SINGLE SAMPLE	
	surface	bottom
Dissolved Oxygen (DO) % saturation	70–110%	15–110%
Turbidity (NTU)	18	26
pH (pH units)	6.9–8.3	6.8–8.2

EstuaryWatch volunteers also measure the salinity (ppt) throughout the water column. A rough guide for salinity in estuaries is 0ppt (freshwater) to 35ppt (seawater).

To find out more about the parameters EstuaryWatch volunteers use to measure estuary condition, *Interpreting Estuary Health Data*, EstuaryWatch Victoria is a fantastic resource.

Estuary Events



The Wye River estuary mouth finally opens on January 21 2016 after 72mm of rainfall fell in the catchment over the previous three weeks.

On December 25 2015, Wye River and Separation Creek were devastated by bushfire, firefighting efforts resulted in significant extraction of water from Wye River resulting in the drying of the river upstream of the township to a point that the river could not supply enough water for the town's hotel, shop and caravan parks. Water was transported into the town and stored in large tanks to keep the town watered over the busy holiday period. Impacts on river systems following bushfires have been well documented. Impacts include increased catchment erosion as the charred landscape is washed by rainfall resulting in increased inputs of sediment, nutrients and debris into the river systems. Sediment inputs can create sandy slugs that slowly move down the river system. Nutrient inputs can lead to algal blooms, and debris can block and damage structure such as bridges.



Get to know your local estuary species

Southern Shortfin Eel, *Anguilla australis*

Southern Shortfin Eels pass through estuaries during several phases of their lifecycle. The adult eels spend up to 20 years in freshwater rivers, lakes and dams, before migrating to the sea to breed in the Coral Sea of north-east Australia. Following successful breeding the transparent leaf-like larvae are transported southwards via the East Australian Current, and grow into glass eels before migrating to estuaries in south-eastern Australia. Glass eels are often observed entering Victorian estuaries during their migration to freshwater, the young eels are able to climb barriers such as waterfalls and dam walls.

See more at: <https://australianmuseum.net.au/southern-shortfin-eel-anguilla-australis>

Photo: A Southern Shortfin Eel, *Anguilla australis*, in the Morwell National Park, Victoria, 25 Oct 2015. Source: Matt Campbell / Bowerbird. License: CC BY Attribution