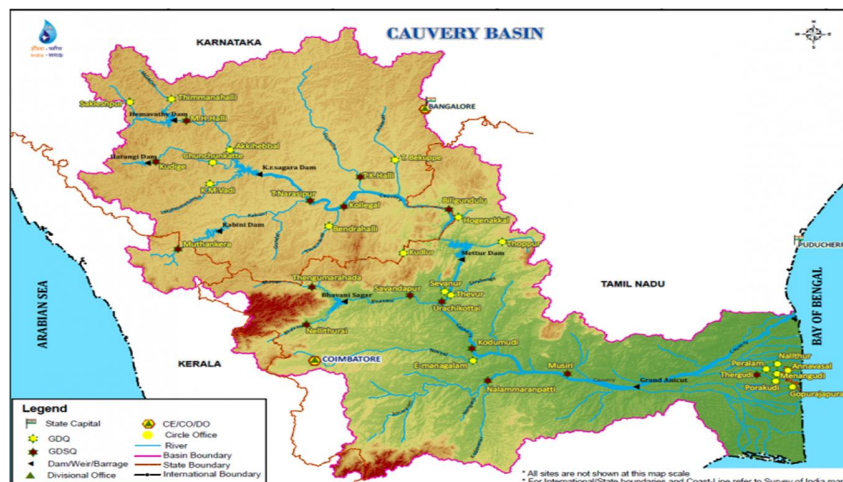


Status of River Cauvery water quality near Mokedattu, Karnataka before joining Tamil Nadu State.

The Cauvery (also spelled Kaveri) is one of the great rivers of India and is considered sacred by the Hindus. This river is also called Dakshina Ganga. The river originates in Talakaveri located in the Coorg district of Karnataka State and flows from Karnataka through Tamil Nadu, Pondicherry, and Kerala and finally empties into the Bay of Bengal. The first important tributary to join the Cauvery, practically on the border of Coorg and Karnataka Districts, is Harangi. Other smaller tributaries like Kakkabe, Kadamur and Kummanhole join and continue to flow eastwards. Two important tributaries i.e. Hemavathi and Laxmanthirtha join Cauvery later. After it flows further eastwards below Krishnarajasagar (KRS) dam, it is joined by another important tributary i.e. Kabini. Thereafter, two tributaries i.e. Suvarnavathi from right and Shimsha from the left join the river Cauvery. After Sivasamudram water fall and hydroelectric power station it passes through the ghats and its width narrows down considerably. The Cauvery continues its journey towards East and in that process it forms the boundary between Karnataka and Tamil Nadu for a distance of about 64 km. (40 miles). Yet another tributary i.e. Arkavati joins the river just before it enters Tamil Nadu State.

Its waters have supported drinking and agriculture for centuries to parts of South Karnataka, some parts of Tamil Nadu. The Cauvery River has been the lifeblood of the ancient kingdoms and modern cities of South India. Its basin is estimated to be 811, 55 km². The figure below shows the Cauvery basin and its tributaries flowing from Karnataka to Tamil Nadu.



The Arkavathi sub-basin is located in the state of Karnataka in India. It covers an area of 4,253 km², and is part of the inter-state Cauvery River basin. The sub-basin covers parts of eight Taluk - Doddaballapur, Nelamangala, Magadi, Bangalore North, Bangalore South, Ramanagara, Anekal and Kanakapura within three districts - Bangalore Urban, Bangalore Rural and Ramanagara. The Arkavathi River originates in Nandi Hills, of Chikkaballapur district. The main stem of the Arkavathi is several smaller streams before it eventually meets the River Cauvery (see Figure). Of these, the catchments of the Kumudavathy and Suvarnamukhi are largely rural and Kumudavathy flows only in wet season. On the other hand, the Vrishabhavathy stream runs through Bengaluru and peri-urban areas, but highly polluted river, as it acts as a drain for domestic and industrial wastewater. The Vrishabhavathy, a tributary of the Arkavathi, flows into the Byramangala tank and the water is used for irrigation. The Vrishabhavathy meets the Arkavathi before Kanakapura town. Near Kanakapura and further downstream, the pollutant-laden Arkavathi gets diluted to some extent by other streams, yet remains highly polluted when it joins the River Cauvery.



The CPCB Zonal Office - Bengaluru is carrying out Interstate Boundary River Water Quality Monitoring Cauvery River at Sathyagala Bridge, before Sivasamudram from past 15 years. A joint monitoring was carried out to assess the status of Cauvery river water quality after joining storm water and treated /untreated sewage by CPCB Zonal Office - Bengaluru and Karnataka State Pollution Control Board on June 30th, 2015 at three locations in Cauvery River and the samples were collected together for analysis viz.

- A. One sample was collected in Cauvery River at 200 m away before Sangam,
- B. One sample was collected in Arkavathi River at 200 m away before Sangam,
- C. One sample was collected in Cauvery River at 200 m away after Sangam,



During monitoring the water samples from Cauvery River before Sangam and after Sangam was collected together. However the water sample from Arkavathi River was collected after the gap of 4 hours due heavy flow in the River.

The Samples collected was analyzed at CPCB Zonal Office - Bengaluru and results are depicted in the table below:

Table: Cauvery River water quality at Cauvery River, Arkavathi River and Cauvery River after Sangam.

| S. No. | Parameter (all in mg/l except pH) | River Arkavathi before Sangam | River Cauvery before Sangam | River Cauvery after Sangam |
|--------|------------------------------------|-------------------------------|-----------------------------|----------------------------|
| 1 | pH at 25 ^o C | 8.4 | 7.6 | 8.4 |
| 2 | EC μ s/cm at 25 ^o C | 1268 | 172 | 718 |
| 3 | TDS at 18 ^o C | 840 | 156 | 480 |
| 4 | Dissolved Oxygen | 7.3 | --- | 8.1 |
| 5 | BOD at 27 ^o C, 3 days | 1.6 | 1.7 | 3.0 |

| | | | | |
|----|-------------------------------------|--------|------|--------|
| 6 | COD | 14.7 | 9.9 | 24.0 |
| 7 | Total hardness as CaCO ₃ | 354 | -- | 196 |
| 8 | Calcium as Ca ⁺⁺ | 92.4 | -- | 53.4 |
| 9 | Magnesium as Mg ⁺⁺ | 30.1 | -- | 15.3 |
| 10 | Alkalinity as CaCO ₃ | 78.3 | 20.6 | 49.4 |
| 11 | Chloride | 203 | 9.9 | 104 |
| 12 | Sodium | 130 | 9.1 | 64 |
| 13 | Potassium | 7.2 | 2.0 | 5.3 |
| 14 | Nitrate as N | 2.8 | 0.32 | 1.9 |
| 15 | Nitrite as N | BDL | BDL | BDL |
| 16 | Ammonia as N | BDL | BDL | BDL |
| 17 | Phosphate as P | 0.96 | 0.03 | 0.52 |
| 18 | Boron | BDL | 0.28 | 0.03 |
| 19 | Sulphate | 34.4 | 7.1 | 20.3 |
| 20 | Total Coliform (CFU/100ml) | 190000 | --- | 120000 |
| 21 | Fecal Coliform (CFU/100ml) | 1000 | --- | 1000 |

From the above analysis result, the parameters like pH, Dissolved Oxygen and BOD are meeting the standards of CPCB water Quality criteria for all the three samples and the Cauvery River water quality falls in Class B of water. The values of Parameter like EC, Total Coliform and Fecal Coliform in the Cauvery River water after Sangam and Arkavathi River exceeds the standards of CPCB water Quality criteria for Class C of water. It may be due to the joining of storm water drain and treated/untreated sewage and industrial waste water from part of Bengaluru city into the River Arkavathi.