

Blackwater

The Google image below shows blackwater being discharged from the Richmond River mouth at Ballina.

Blackwater is deoxygenated water, which can be of organic or inorganic origin, and can result in fish kills. The bulk of blackwater is organic, which is produced when introduced dryland grasses or crops on the mostly cleared 1,000 square kilometre floodplain are inundated by floodwater during major summer floods.

The grasses and crops die and are decomposed by bacteria that can consume all the available oxygen in the water. The blackwater is then transported via the drainage system to the river where fish may become trapped and unable to escape to the ocean. This combination of events may result in large fish kills.

Blackwater is more of a problem in summer due to the larger amount of organic biomass available and warmer water allowing increased bacterial action. The second source of blackwater is the inorganic form caused by the suspension of Monosulfidic Black Ooze (MBO) that forms on the bottom and sides of artificial drains in drained acid sulfate soil environments such as former natural wetlands.

Following storm events MBO may be stirred up and suspended by turbulent water flow, allowing a chemical reaction to occur that can strip oxygen out of water within minutes and result in localised fish kills.

Restoration of wetland hydrology in the 110 square kilometres of major wetlands (Tuckean, Kookami, North Creek and Rocky Mouth Creek) will assist with chronic bleeds of poor water quality during normal times and during minor flooding and will improve fish and bird habitat, however blackwater events during major summer floods will continue to cause major fish kills due to the inundation of the remaining 890 square kilometres of floodplain.

