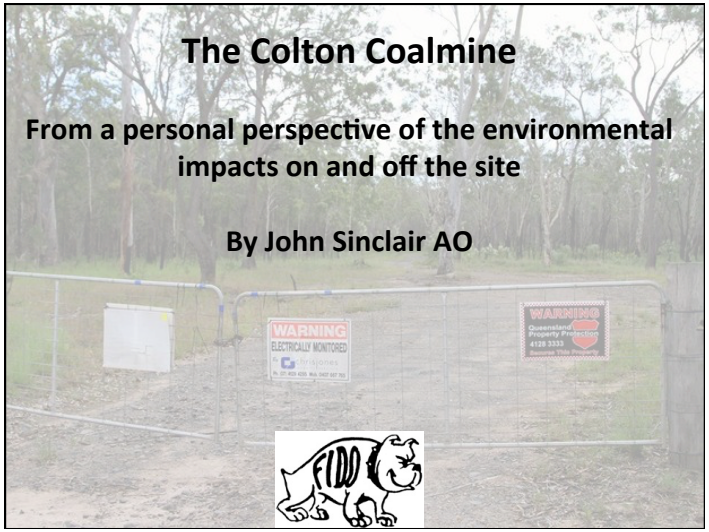
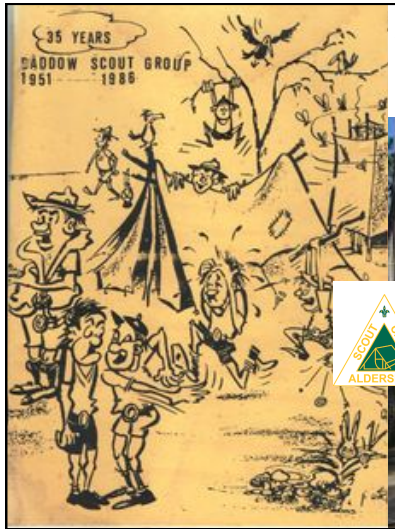
The Colton Coalmine

From a personal perspective of the environmental impacts on and off the site

By John Sinclair AO





As a Maryborough Boy Scout from 1946 to 1956 I was very familiar with the Wallum surrounding the Aldershot scout camp just three kilometres from the Colton Mine

Mining began in the Burrum coalfields in 1865 grew to approximately 94 tunnels and shafts. More than 8,000,000 Tonnes were extracted all through underground mining

One of the environmental impact of underground mining was the demand for pit props. This significant industry was often associated with cutting railway sleepers as sleeper cutters scoured the Wallun

The site is in the centre of some of one of the largest areas of remain intact Wallum on the planet. It has ben classified as having high environmental values

Vegetation patterns along Churchill Mines Road

Because the mine will be open cut working in a deep pit cutting through layers of groundwater aquifers the environmental impacts will be felt far beyond the mine site.

pH: Once the coal seam is exposed to air the sulphur in the Pyrites begins an endless chain reaction generating sulphuric acid. This poses a huge environmental threat to the natural integrity of Great Sandy Strait arises. Most aquatic life is extremely sensitive to any changes in pH and water quality.

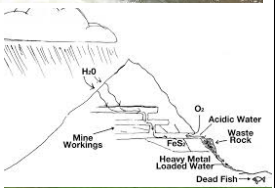
Heavy Metals: Exposure causes heavy metals (Aluminium, Arsenic, Boron, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Nickel and Zinc) to be released as a result of the mining process. These will be in the cocktail being flushed into the Mary River. Heavy metals don't breakdown like other pollutants do and they will continue to accumulate in the sediment and potentially in the water for year after year while the mine is in operation. While they may plateau when the mine ceases operation they will persist in the sediment and continue entering the food chain long after.

The most obvious impact arises from the water that will seep continually into the deep open cut pit cutting though various aquifers.

This will have two impacts:

1. It will change the hydrology of land surrounding the mine making it more drought sensitive; and
2. Water contaminated by acid (sulphur exposure) and heavy metals will be discharged into the Mary River to allow mining to proceed without the pit flooding.

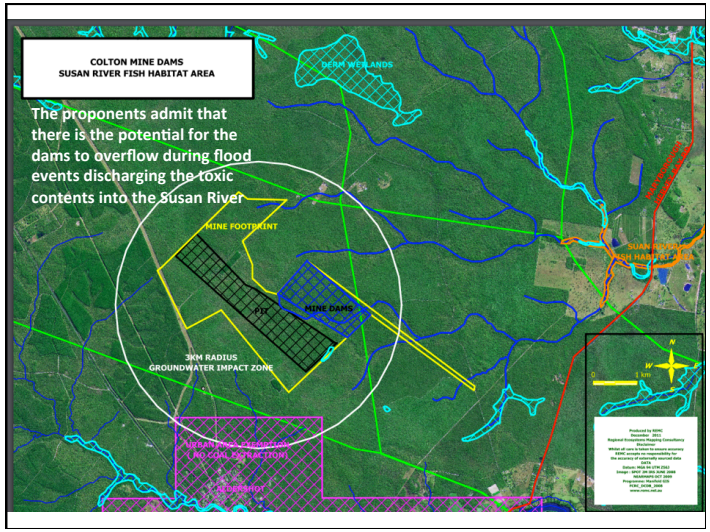
Polluted ground water from Colton Mine is proposed to will be pumped out of the pit and discharged into Mary River at the Devil's Elbow, Dundathu just 8 kilometres up from the Great Sandy Strait Ramsar site.



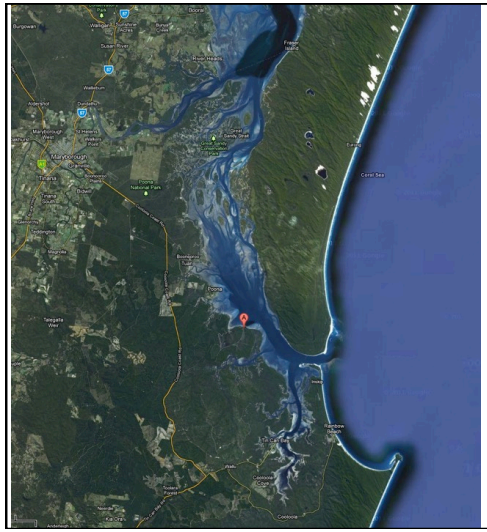
It is the environmental impacts on Great Sandy Strait that arise from that discharged water that most worries FIDO

- The mine will need to discharge 946 megalitres of untreated mine water annually.
- Translated this means that 200 litres per second (equivalent of 10 x 20 litre containers) will be discharged directly into the Mary River every second (600 jerry cans per minute). Just imaging people flushing that volume of contaminated undrinkable water into the estuary and what it can do to life in the river.
- Put another way that is 5.8% of the average daily Mary River flow

But what happens when the Mary River flow over the tidal barrage ceases?



The threats from water from the mine aren't limited exclusively to the Mary River. The mine is wholly within the catchment of the Susan River. Major flood events can carry the most toxic water from the mine site and disperse dangerous pollutants downstream.



The natural flow of the Mary River discharge is through Great Sandy Strait.

For most of its history the the geological syncline that is represented by Woody Island has blocked the Mary River from flowing into Hervey Bay.

Until the sea levels rose sufficiently, the river was turned south and headed down Great Sandy Strait discharging into the Pacific somewhere east of Double Island Point.

Even now most of the river's flow is to the south as evidenced by the tidal delta south of River Heads

Great Sandy Strait is a Wetland of International Significance.
It was inscribed as Ramsar site 992 in 1999.
Its 93,160 ha includes marine, estuarine and intertidal wetlands and salt pans. The intertidal wetland habitats consist of:

- **15,500 ha of mangrove forests,**
- **12,300 ha of intertidal and subtidal seagrass beds,**
- **2,800 ha of saltmarshes, unvegetated mud, sand and salt flats, and estuarine and channel waters of varying depth and width.**

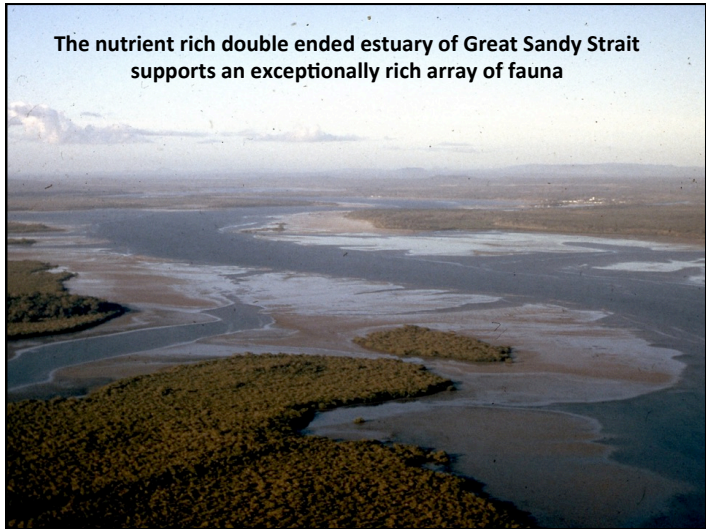
It is a very special place deserving the highest level of protection.

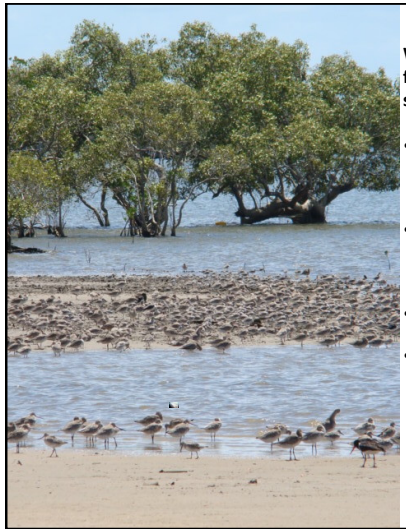
The main freshwater wetland types are Melaleuca swamp forest and other palustrine wetlands.

Extracts from "Eye of the Storm"
Patrick White
describing Great Sandy Strait and Fraser Island (K'gari)

Beneath them the straits burnished silver by the heat; ahead of them the solid island trembling perceptibly with the motion of their flight. ... On one side was the strait flat and listless through the fringe of mean looking mangroves; on the other, beyond the pickets of eucalypts rose the dark mass of the more obscure esoteric rainforest which obscured, presumably the ocean.

Great Sandy Strait is a narrow shallow protected Heritage waterway separating Fraser Island from the mainland has a rich historical and cultural heritage which has been under-recognized





Waders use the expansive tidal flats intensively, especially near the seagrass beds.

- **Eighteen of the 24 migratory shorebird species listed under JAMBA and CAMBA use these wetlands.**
- **The area is recognized as among the most important roosting sites for migratory trans-equatorial shorebirds in Australia.**
- **Counts of up to 40,000 shorebirds have been recorded.**
- **It provides one of the most important roosting areas for migratory, trans-equatorial shorebirds in Australia.**

Great Sandy Strait is the most important of thirteen areas for the Eastern Curlews, containing 14.3% of the known Australian population. Only a handful of sites on the eastern seaboard hold a majority of the population.

This population becomes even more endangered if we fail to protect this very significant part of their Australian habitat from pollution

All six species of marine turtles found in Queensland inhabit the strait. — green, hawksbill, flatback, Pacific Ridley, loggerhead and leatherback turtles. The Great Sandy Strait is an important feeding ground for juvenile turtles.
Turtles are reliant on sea grass.
What happens when the seagrass of Great Sandy Strait has an unnatural uptake of heavy metals — Cadmium, Cobalt and Manganese?

Great Sandy Strait is a recognized "hot spot" for the endangered dugong with high densities of these marine mammals dependent on the sea grass there.

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Three species of dolphins, the common dolphin, bottle-nosed dolphin and the Indo-Pacific, humpback dolphin, are resident in the area.

All of this rich biodiversity is at risk of being slowly poised by the heavy metals discharged into this special waterway or by the changes in the pH

Mangroves: The mangrove communities represent a transition between temperate and tropical regions. Ten species of mangrove have been identified. *Aegialitis annulata* and *Xylocarpus granatum* reach their southernmost limit here.

Seagrass: The seagrass beds contain six species. These areas act as nursery and feeding grounds for prawns and fish, and the feeding grounds for dugong and turtles.

Rare Butterflies: Old stands of grey mangrove support populations of the endangered Illidge's ant-blue butterfly.

Fish and crabs: The area is extremely important for the protection of, and as a source of food for, juvenile and adult fish and crustaceans.

So far there has been no Environmental Impact Statement for the Colton Coal mine because the size of the deposit was understated and that enabled the whole enlarged scheme to slip through without scrutiny of the impact that it will have on the Great Sandy Strait Ramsar site and he public need answers to some very critical questions.

- Why have the plans for the hazardous materials dams been scaled back to increase the potential for severe environmental impacts on the Susan River Catchment?
- What is the anticipated pH of the water being discharged into the Mary River?
- What are the volumes and projected impacts of the heavy minerals in the sediments and how long will these persist?
- What is going to be the impact on the fauna that has until now made Great Sandy Strait its home?

Since there has not yet been an Environmental Impact Statement and because Ramsar and World Heritage sites are triggers for the EPBC Act Federal Environment Minister Josh Frydenberg is determining whether it should have been considered a controlled action and assessed under Federal environment laws. The public certainly needs to get some clear answers to these critical environmental issues.