

TASMANIAN PULP MILL AND SOUTH AUSTRALIA

Today everyone understands that the environment operates independently of State boundaries but in specific cases this is not always obvious.

A recent inter-disciplinary study by the Civic Trust of the proposed Tasmanian Pulp Mill and its effluent provided an excellent example of this.

The plan for the Pulp Mill includes the discharge of 64,000 tonnes of effluent *per day* into Bass Strait. This includes dioxins, which are rated as one of the most poisonous compounds known to science.

The proponents claim that the effluent will be discharged deep underwater and therefore will not have an impact.

Naturally this is a concern for the fisheries industry in Tasmania but I found two other reports which when combined lead to a potentially significant impact on South Australian fisheries.

The first was a CSIRO study reported in the Sydney Morning Herald on 16th August 2007 (below) that

identified an undersea current flowing from Tasmanian waters to the fishing grounds of South Australia.

The second was a book, "The Deep: The Extraordinary Creatures of the Abyss" edited by Claire Nouvian, which describes the daily migration of sea creatures from the depths to the surface waters.

The deep ocean is too cold and lifeless for many creatures to dwell permanently, so herbivores rise at dusk to the solar-heated upper region where their food is and return to the depths at dawn. The predators follow them down, together creating what is described as the greatest synchronised animal movement on the planet.

Thus any pollutants in the depths get carried to the surface and spread through the food chain on a daily basis.

We advised the South Australian Fishing Industry Council and the information was received with much appreciation. The news then adopted a life of its own and the TV networks took it up with enthusiasm.

Since that time the Chief Scientist has requested further investigations and we trust that the health of the waters in South Australia's fishing grounds will be taken into account.

Darian Hiles

Great mystery of the deep solved

Richard Macey

A DEEP sea current flowing past Sydney has been found to be part of a long-sought "missing link" thought to connect all the world's southern oceans.

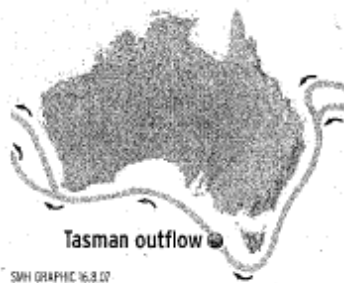
CSIRO scientists who discovered the current say it plays a crucial role in controlling not only the world's temperature but the food supply for marine life around the globe.

Dubbed the southern hemisphere supergyre, it travels at depths averaging 800 to 1000 metres. Starting in the Pacific north near New Zealand, it flows towards the Queensland coast where it bends south.

Passing Tasmania, it turns west until it reaches Western Australia, where it splits in two before crossing the Indian Ocean. Then it curves south of Africa and into the South Atlantic.

Ken Ridgway, a scientist with the CSIRO Ocean Flagships re-

DIRECT CURRENTS Southern hemisphere supergyre



SMH GRAPHIC 16.8.07

search program, said yesterday that because the current travelled at great depths its temperature and salinity, as well as the nutrients swept along with the flow, changed little.

As a result it played an important role in stabilising the world's temperatures, and ensuring the survival of sea life. Monitoring changes in such a stable system should provide pointers to global climate change.

Dr Ridgway said scientists had known about what appeared to be three separate westward-flowing currents in the southern Pacific, Indian and Atlantic oceans. While modelling suggested they should be linked, there was no proof.

"We knew about individual bits. We knew about the current east of Australia, but when it reached Tasmania, we didn't know whether it went east or west."

The previously unknown section of the current, south of Australia, has been named the Tasman Outflow. "That's the missing link" Dr Ridgway said. "We have been able to show that the global circulation in the southern hemisphere is connected."

Identifying such a deep current had taken "thousands and thousands of observations" collected between 1950 and 2002 by ships, automated ocean monitors and satellites.

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A similar pulp mill is proposed for South Australia's South-East at Penola and the owner is asking for 189 megawatts of electricity each year. This is considerably greater than Olympic Dam (105-115 megawatts) and Mark Parnell MLC noted that this is almost 70% of the total used by Adelaide households.

Greenhouse gas concerns will be the same as other pulp mill factories and major water supply and effluent issues as with the Tasmanian mill will apply.