

**Response to Tania Rattray's Comments in Tasmanian Parliament -
Hansard; week ending 3 September 2010.**

Written by Dr Scammell and Dr Bleaney
9 September 2010

MLA Tania Rattray spoke in the Tasmania Parliament (week ending 3 September 2010) and produced a media release in which she called on the ABC to compensate the St Helens community financially for the damage caused by two episodes of the Australian Story 'Something in the Water'. She also reported that the Tasmanian Government's panel of scientific experts (George River Water Quality Panel) found no evidence to support claims broadcast in 'Something in the Water' and that they had now been proven to be completely untrue. She asked for a significant donation to be made by the ABC to the St Helens Chamber of Commerce to pay for a marketing and information campaign directed to encouraging the tourist trade and assist in compensation for losses to local businesses that had apparently been severely affected by the 'false report'.

No supporting documentation has been provided to substantiate the claims made by the Chamber of Commerce.

In 2000, Dr Scammell was contacted by the Tasmanian Department of Primary Industry, Water and Environment (DPIWE) and the St Helens Oyster Farmers to help identify the cause of shell deformities and increased mortalities in oysters in north-eastern Tasmania. Part of the problem was associated with the illegal use of a banned chemical used as an active in anti-fouling paint on boats (TBT), however the problem in Georges Bay proved to be more complex.

In 2002, Dr Scammell recommended that a full catchment investigation be undertaken and subsequent experts (Mortimer, Percival, etc, and now the George River Water Quality Panel itself), recommended the same.

Although an investigation has been recommended for 8 years now, it has never eventuated.

The Panel did not conduct any independent investigation of the George River Catchment or Georges Bay.

The Panel was presented with Drs Scammell and Bleaney's summary of work completed from 2005 to 2008 in the presence of the representatives of the various laboratories that completed that work. This was provided on the assumption that all data presented to the Panel would be assessed.

The Panel disregarded critical components of that work including:

- (1) grab samples from the George River that were found to be toxic to oyster larvae and sea urchin larvae,
- (2) the fact that the toxin was always present in the foam during dry weather,
- (3) the fact that the isolated toxin was not a man-made chemical, and,
- (4) the fact that toxins isolated from plantation leaves (*E. nitens*) had the same chemical signature as toxins isolated from foam samples taken from the George River.

In its report, the Panel:

- (1) did not dispute that there is a problem in the George River water catchment but cannot explain the increased oyster mortality rates in Georges Bay;
- (2) argues that using oysters to look for a toxin that is killing oysters is somehow inappropriate;
- (3) argues that the foam-sampling method used which is intended to and does concentrate the toxin, is inappropriate;
- (4) argues that the concentrating method increases the concentration by approximately 1,400 and therefore toxicity is not relevant;
- (5) states that the townspeople's water is safe by virtue of the filtration plant (with the addition of activated charcoal) despite this not having been fully investigated;
- (6) determines that local human health data (as compared with the rest of Tasmania) is not materially different but does not explore this in any detail; nor does the Panel explore Tasmania's poor health trends compared to the rest of Australia.

The argument that toxicity is not relevant because of the concentration is contradicted by the Moulting Bay grab sample of foam that was toxic as well as the grab samples of the water column that were also toxic.

In reality raw water is required to be drawn from the George River in the catchment for irrigation, stock water and drinking water.

Pre-concentrating toxins in the field has also become a standard practice when identifying the presence of potentially toxic chemicals at low concentrations. Determining if the concentrations in the raw water are toxic is normally done after identifying the presence of a contaminant. The previously unidentified toxin(s) found to be constantly present in the foam are highly toxic but, despite these findings, the Panel has made no attempt to promote any research in either of these areas.

From 2008 to date, the New Zealand National Institute of Water and Atmospheric Research (NIWA) and Flinders University were commissioned to confirm the toxicity evaluation and to determine if the toxin found during dry weather was at concentrations that could impact on environmental and human health.

Flinders University (Dr Fiona Young) tested a filtered grab sample of raw water from the river on human cell lines and found toxicity. The Panel disregarded this result on the basis that this is a new methodology. (However, Tasmanian Health acted on this finding by introducing activated charcoal into the treatment process for the town's water supply.) Dr Young disputes the claim that the method is new.

Tasmania's Department of Public Health is currently funding Dr Young to continue her work to determine whether the additional water treatment is adequate and needs to be maintained.

NIWA (Dr Chris Hickey) ran a complex calibration experiment to determine at what concentration the particulate-attached toxin would be toxic to marine life. NIWA concluded that, when particles in the water column were at levels three to five times higher than the concentrations found during base dry-weather flow, marine life would be at risk of adverse effects. Break O'Day Council's turbidity data indicates that this threshold is often exceeded in the raw water.

The Panel states that they were not given access to Dr Hickey's work and therefore disregarded it, yet presentations of results were emailed to Dr Batley and NIWA's main findings were also sent to the Panel. [The presentations are in the Panel's reference list].

Dr Young presented her work on the George River water sampling and findings of toxicity in a filtered raw water grab sample to the International Young Water Professionals Conference in Sydney on July 2010. The audience, made up of independent scientific experts, in the form of the delegates at a meeting of the International Water Association, agreed with the authors' conclusions. This contradicts the views of the George River Water Quality Panel.

Dr Hickey presented his work to date on the toxicity in the George River water to the European Society of Environmental Toxicology and Chemistry (SETAC) in Seville on May 2010, also to an audience of independent international scientists.

The work of both Dr Young and Dr Hickey has, in effect, been peer-reviewed but the Panel has produced no data of its own and its review of our collective work and its recommendations have not been subject, to our knowledge, to international peer review.

Unfortunately, a reading of the Panel's report could lead one to infer that relevant findings were not presented to the Panel, which is not correct. The question needs to be asked as to why, if the Panel was not going to do its own independent studies, the Panel members did not explore all the information to which they were given access.

The problem has not gone away.

Our research is driven by past and current impacts on oyster growth and health, plus past and current animal and human health anomalies. This research is being undertaken outside of Tasmania and it will continue until there is an adequate explanation and resolution to the biological problems in this area.

The authors and those associated with this research feel strongly that this work must continue as it is in the public interest to do so.

If the Government wished to, it could re-direct its currently available resources to answer these questions and work to solve the problems rather than continue to criticise our call for more research to be done on these evolving issues.

Nothing in the Panel's report identifies any valid reason for the Government not to undertake the catchment-wide investigation that we have been calling for since 2002. In fact, the Panel recommends that it be carried out. Despite the Panel's report being released many months ago, the Government has still not announced any such enquiry.

We are disappointed with Tania Rattray's report in Parliament and hope that this reply will place before her and other members of parliament the true situation in relation to the water quality of the George River.