



Nov 11, 2016

### **Flood Review - 2016**

In response for submissions to address concerns or issues in relation to the review's terms of reference I make the following comments as detailed below.

My comments do not directly fit into the terms of reference and yet I believe they are vital in any forward thinking and planning of our rivers and streams.

As a surveyor, my background has seen extensive experience in roads, bridges culverts, drainage systems and associated structures.

I have also undertaken many surveys for river restoration projects in several rivers across northern Tasmania.

As a road authority, removal of water from roads and its subsequent deposition into the streams and rivers was and still is fundamental to sound road construction and management.

Bridges and culverts are a means to convey traffic safely across watercourses.

The watercourse was 'just another engineering challenge' with safe passage of traffic and immediate embankment protection around abutments and wing walls being the main priority in design and construction.

Certainly flooding was considered but my understanding it was more for the protection of the structure as opposed to sound river management.

There were exceptions, Deloraine by pass for example, where consideration was given to the effects on surrounding lands due to the massive embankments built across the flood plain.

Moving into urban areas the network of pipes, drains and channels are an integral part of storm water management as run off is diverted into the infrastructure, with the resulting run-off eventually finding its way into the same streams and rivers mentioned above.

Sewer works deal with formidable volumes of water, that once treated exits the works area and is also turned into the streams and rivers.

To varying degrees, every activity undertaken by mankind involves the need to dispose of water in some form.

Run off from forestry, mining and farming all impact the river systems of Tasmania.

For a long time rivers and streams have been a means to dispose of all manner of substances, not just water.

Whilst environmental controls have regulated what can be turned into our streams, little if any headway has been made in appreciation of our waterways and the channels that form them.

These waterways pass through much private land on their way to their outlets at the coast.

And yet it is those individual landowners who face the full brunt of an angry river.

A river carrying my/ our water in channels across lands owned by others.

It is inconceivable to expect landowners to bear responsibility for the volumes of water each system carries and yet it has traditionally been the landowner's responsibility to maintain the channels for the benefit and wellbeing of others, so those waters, not of the landowner's creation, can be conveyed to the coast.

Any development application has to account for storm water and overland flow paths.

Councils levee a rate for storm water management and maintenance.

It is therefore obvious, that storm water management does come with consequences and incur costs.

However the consequences and costs seem to end abruptly once the water source receiving said runoff is reached.

It is at that point landowners bear the full brunt of consequences from water passing through their land and are expected to also bear any costs associated with remedial works, repairs and rebuilds of banks, fences buildings and soil erosion, not to mention stock, building and machinery losses.

Ironically a fee is charged and restrictions apply on drawing river water in summer flows.

Another cost farmers are forced to accept.

Run off into waterways can cause turbidity and if bad enough can draw the wrath of the Environmental parties both government and private.

Eroding banks can be a major issue with landowners and a primary source of turbidity.

Caused by erosion, not from water on their land but water that had its origins elsewhere on "other lands". It is left to the individual landowner to address the issue that is of the making from some other source.

One must acknowledge a caveat here as irresponsible landowners do not contribute to sound stream management and can even exacerbate a situation.

This introduces another issue. The lack of Government will or legislation to deal with such issues.

A job I was heavily involved in ended disastrously when a landowner was left with all the costs of building a new bridge when his existing one was tossed in the river by an aggrieved other landowner using his own excavator.

Crown Land Services, Council and Police were seemingly powerless to address anything related to the reckless actions of a citizen of Tasmania that not only saw a good bridge destroyed, but also damage to the banks and bed of the river.

Shingle was a commodity freely taken from river beds by governments for road materials. And yet again, conversely, the landowner was not able to benefit from (sell) anything from the river, fully enclosed within their title.

There is no other situation where the owner of the entity has no rights to dictate charges and appropriate use of such entity.

Roads are one such entity where it is inconceivable to imagine the same application of responsibility and lack of protection afforded to our river systems is applied to roads and their corridors.

Clearly from the examples above there is a complete lack in governance in relation to waterways and their management.

The only incident where action is taken appears to be contaminants infiltrating the waterways.

Recent floods of the severity just experienced have caused violent and massive damage across many catchments.

Similarly, catastrophic situations from bushfire have had huge impact on land, dwellings, livestock and livelihoods.

And yet there seems a disparity between how both catastrophes are viewed in the eyes of the authorities. When the June floods hit us and the effects began to emerge a system was established as to who was eligible for help.

Was such a system in place when bushfires devastated our state?

Was someone in location A told they weren't eligible despite having lost home, livestock and machinery when another in location B "only lost a house and a car" but was eligible for "the lot"?

A landowner on the Dasher has just the same need for help as a small town sized lot in Latrobe.

It is inconceivable to differentiate in such severe times of recent floods.

My involvement in rivers spans many years and is across many areas of Tasmania.

I have seen many different river styles and in varying stages of health.

This also includes rivers in remote areas not influenced by mankind.

The 1950's and 60's saw advice from Agricultural Department issued to landowners that has since proved problematic to, even destructive on our river ecosystems.

Land clearing to the edges and river straightening was carried out in an attempt to better manage the land. The rivers were seen as a foe to be conquered and subdued.

I have spent many days surveying different rivers to aid those qualified in restoration of our waterways determine the way forward in arresting degradation and improving the river systems that, with proper care and attention, can bring much social and environmental benefits to us all.

Having experienced firsthand the works undertaken to correct past wrong practices and see these outlast the 2011 and 2016 floods it is obvious to me we can make a significant difference to our rivers and streams through a number of simple and yet highly effective actions.

I offer that for effective stream management we need geomorphologists experienced in streams and river systems and available to landowners to enable them to make right decisions in caring for their rivers and streams.

It is inconceivable to expect a landowner to understand what is happening and why and to know how to address the issues faced in recent floods.

To sum up. The person owning the channel, conduit, that carries the water of others, through their land should not be expected to carry the costs of sound river care functions that in turn help hold our waterways together.

Government needs to step up and take responsibility and provide a legislative and financial framework along with professional expertise to bring lasting benefits for the river systems of Tasmania.

### **Some observations, particularly of the 2016 floods.**

The floods were randomly discriminatory.

Mass removal of vegetation occurred in rugged bushland untouched in perhaps past 60 years.

Obviously vegetation wasn't an answer in such cases.

Conversely some areas along the Dasher were saved by the vegetation that helped disperse water and kept soils intact.

Railton. I had surveyed much for the 2011 floods and repeated same for affected areas of 2016.

Fences of solid material held back water and were seen as an accessory to the flooding of some houses in 2011.

In 2016 similar fences actually helped prevent a house from flooding. It was obvious from the elevations if the water had clear access through an open fence the downstream house would have been flooded.

However a house with a solid fence in its backyard caused the rise of about 0.5 metres and the house was flooded. Panels were removed to alleviate this.

In latter case the house would still have flooded. The depth of inundation would have been less.

Farms had fences at 90° to flow.

They were swept away. These fences were reinstated rather than consideration given to creating paddocks running with the river as opposed to across the flow direction.

Some strut systems remained intact, others were quickly removed. But I'd caution anything conclusive however suggest fencing be given serious research.

Bridges. A low level bridge across the Mersey at Merseylea remained intact whilst high level ones were destroyed or damaged.

Is it so important to have bridges completely flood free but subject to damage, or could we be encouraged to suffer inconvenience and not travel in certain times due to floods.

Often a bridge can remain high and dry but approach roads inundated negating a flood free bridge.

Bridge planning and design perhaps needs an injection of fresh ideas and in harmony with rivers and streams they are crossing.

Flood gauges. Several (many?) were lost and apparently slow to be replaced.

I fully appreciate such need to account for low flows and high alike, however it would have been a relatively simple task to install some temporary boards that allowed relative heights to be monitored and rate of changes in river height determined that would help warn of perceived impending issues downstream.

I gather the lack of any warning system after the first devastating system caused consternation in several key areas when rains returned bringing additional flooding.

I welcome further discussion on any of these matters and trust consideration is given to make real changes that bring much needed support and hopefully alleviate flood related issues that we can have some control in.

Yours sincerely

A handwritten signature in cursive script that reads "Richard Sands".