

Managing Extreme Natural Events



I invite you to consider macro management of extreme natural events in the light of three recent scenarios; and I elaborate on the third with respect to timely and appropriate decision-making:

- (a) knowledge
- (b) training
- (c) responsibility
- (d) authority.

All scenarios are designed to show systemic failures which can be applicable to Rangelands management with a view to changing attitudes and behavioural responses in these desperate situations accordingly.

Scenario 1

The recent fish kill in the Darling River and associated streams with the loss of more than one million marketable native fish and community impacts on population sustainability and future viability.

Scenario 2

The loss of 500,000 or more cattle through drought, flooding and disease in the north and west of Queensland in particular and the loss of transport access by road and rail including losses through subsidence of saturated land.

Scenario 3

The near-miss of the Townsville floods. My analysis is from published information. As this information is public knowledge, there is no whistleblower involved. All the calculations not published are mine as are any assumptions and any mistakes.

- The Ross River Dam Emergency Action Plan states that the dam full supply level (aka height of river) is reached at 38.55 metres and the dam gates are fully opened when the elevation reaches 43 metres.
- The standing operating instructions indicate that if the dam level reaches 43.6 metres and the flow is then in excess of 2100m³/sec, steps must be taken to evacuate everyone in the immediate vicinity of the dam.
- If the water level reaches 47.5metres, dam failures are extremely likely.
- The height of the Ross River at the dam peaked at 42.99 metres on Sunday, 3rd February at 10.00 PM (Bureau of Meteorology). The dam flood gates opened automatically, as they were designed to at this level, at 8.00 PM, and water flow was in excess of 1900 cu. metres per second. The dam capacity peaked at 244.8% at 2.00AM Monday (ABC) and I estimate a maximum flow in excess of 2030 m³/sec.
- From 7 News Melbourne re 3rd February, 2019:
Up to 20,000 homes have been evacuated as the Townsville flood crisis worsens. It's now the region's worst flood ever recording more than 1 metre of rain in the last week.

The gates of the Ross River Dam opened automatically overnight, after days of relentless rain.
Report on 7 News at 6.00PM | www.7plus.com.au/news

- When the Ross River Dam floodgates opened automatically, who knew?
- Who had prior warning one hour before, eight hours before, 12 and 24 hours before and even three days before?
- Out of the staff at Sunwater as dam operator (contracted to Townsville City Council (TCC) until 30/6/2019 when these staff become TCC employees), TCC Councillors, including the Lord Mayor and relevant staff down from the Director of State Emergency Services, who knew in the time frame above?
- How many of these people know that they are on duty 24/7/365 and are therefore constantly on duty without requirements to record emergency duty or overtime and are likely to be called out at any time of day or night without the necessity of claiming additional payments and likewise have no requirement to seek approval before working in emergency situations and their generous salaries include these responsibilities without the need for prior authorisation?
- What communication took place between any of them by telephone or email before the flood gates opened and, if relevant, how many found an email at 9.00 AM Monday when they returned to work after having the weekend off?
- Does this suggest a possible scenario for the public not being warned that the flood gates were going to open and explain why so many people had to be evacuated in the dark, why police on the street were caught unawares and cars parked on the streets which could have been moved to higher ground were unnecessarily damaged and the subject of numerous avoidable insurance claims totalling thousands of dollars?

Dear reader, as you contemplate these three scenarios, the challenge for you is to decide what would have been timely and appropriate action with regard to the initial criteria and what training is necessary for decision-makers to be adequately prepared.

Now consider what would have happened if the flood gates had not opened automatically or were damaged and could not open. I estimate that the critical level of 43.6 metres could have been reached as early as 8.42PM.

I submit that with saturated ground, the level for dam failures could actually be lower than 47.5 metres but I have used 47.5 metres as the level at which failures occur and that may have happened between 1.00AM and 2.00AM on the Monday morning and then more than 100,000 people in Townsville would have been swept out to sea in the dark.

If this had happened, would your response be the same as for the first two scenarios?

I respectfully submit that if you had to deal with the worst case in Scenario 3, you would not be concerned about the first two scenarios as Townsville would probably no longer exist and any one living there would be looking to live elsewhere. This prompts the argument that whatever you decide in principle that applies to this Townsville scenario is applicable to the other two.

Global warming is real and in simple terms, warmer air holds more moisture, so the experiences of this year could be repeated within one or five years.

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