

Water Connections: from threats to opportunities

By M Gardner for Byron United meeting

1. We are water and we are connected by water as a species, and as coastal residents. Yet often we think only of the threats and not the opportunities that water offers us. In the first reports coming from the McGregor Coxall, the consultants for the master plan, they've said that the buildings and structure of the town sit badly, have a poor relationship with its natural environment. But take a few minutes and explore what they mean in terms of water.
2. Cavanbah: we often hear this translated as the meeting place and the assumption is that it is a meeting place of different people. But there is another meeting here of the fresh water and marine. A meeting place of swamps, billabongs, lagoons.
3. This is what the catchment of Byron Bay looks like, about 30 km².
4. This is the kind of thinking that is needed to understand what we're looking at. The top of this poster states the obvious: water trumps everything in town and country. We simply must learn how to best relate with water. The threats: flooding is a major issue: Sunrise the industrial estate, the centre of town by the clock tower down Shirley Street, these are some but not all of the flooding hotspots. Pollution is linked with not just flooding but every rain. the dirty stormwater that rushes down the channels and drains to the Belongil or straight into the sea. These problems are worse because of our incomplete and old infrastructure. They will get even worse with more storms. And perversely, they also promote rather than prevent drought. Most rainwater is not stored and does not filter into the ground. In November 2014, two dozen members of the Byron Belongil group went out to these 20 hotspots in the catchment to photos of current conditions. As a group we are calling for the basics of good planning. We are calling for integrated water management. There are FIVE PRINCIPLES of integrated water management.
5. When it comes to water the first two principles are to wait and accept -- slow the flow of rainwater hold it in tanks ponds wetlands as long as you can. This will ease the flooding. Everything must be done to slow the water coming down from Paterson St hill. How can you do that well and show you some examples by Philip Johnson, he's the Australian landscape artist who won the prize at the 2013 Chelsea

Show in the UK. He uses integrated water management for every garden landscaping town planning land rehabilitation project.

6. Here is what he created for an urban location in Australia . This could be the Sandhills.
7. And here is what he created to rehabilitate paddocks and drained wetlands. You see all the plants, the curved and soft edges? This is where the microbes live that recycle the water, clean and polish the stormwater pollution. Walking paths such as these can connect Byron waterscapes with the world class tracks of the Arakwal National Park and Cape Byron Headland. Signs, mosaics and public art can inspire residents and visitors.
8. The third principle is to turn more cycles of water. This is the kind of thinking behind Philip Johnston's beautiful waterscapes.
9. Let's look at it in more detail the natural water balance water comes down. It evaporates it run a lot of it infiltrates into the ground and a small part of it runs off. But in the conventional urban water balance is greatly altered. Yes, the rain comes down, but large amounts of it run off very little gets into the ground. Very little is used in a town like Byron Bay itself. This means that most water is brought in by pipes as we do from Rous water. We pipe water in While we throw away the rain water as dirty stormwater.

But there is a better way. water sensitive urban design. This turns more cycles of water. Here in Byron Bay, we made a start on this better plan but it has been left incomplete. The rain comes down more water has a more natural kind of time in ponds, wetlands. No large runoffs of polluted stormwater. No overload poured into the Belongil where it meets with the sea, a storm surge and causes flooding.

10. In 2004, This town was leading Australia with the new sewage treatment plant, with its wetlands systems. But the works which were to be completed – that will ease flooding, clean pollution, help against drought – all of these have not been done. To this day There is no integrated water management for the Byron-Belongil catchment.
11. The fourth principle of integrated water management shows how dealing with the threats pays off with new opportunities. The 4th principal is to engage wildlife in and along the water . The fourth principal creates growth plans for wildlife. This is really important for the Byron Shire, which is one of the biodiversity hotspots in Australia. Sadly it is also one of the most threatened areas too.
12. Here's another of Philip Johnson's waterscapes. This one is called Turtle Park. You can see how he provided stones and wood and plants that are all habitats for turtles

and other freshwater creatures. Such creatures are rarely found around Byron Bay, any more.

13. Not only water creatures but terrestrial creatures benefit. Consider the koalas they don't usually drink water. They rely on the moisture in the leaves of the trees. This is much higher if the roots have access to rainwater. This also helps trees and koalas through periods of drought. Waterscapes as urban design and rural rehabilitation are also a growth plan for wildlife for Byron Bay.
14. And the fifth integrated water management principle -- the fifth one is to renew marine life.
15. Here is the thinking. Draining wetlands causes massive problems in exchange for only marginally useful farmlands. It's not a good trade-off. Integrated water management looks at rehabilitating from drains back to wetlands. this diagram is about mangroves, but here in Byron, we have a wider range of wetland plants, shrubs and trees. We can move from having acid sulphate soil problems, erosion problems and actually build organic carbon. Around the world there are blue carbon trading schemes and Byron Bay could be part of this. Plus, the more organic carbon, the more will circulate back to the ocean. This is the organic carbon that feeds the food webs in the sea. This is the food we are depriving our coastal waters. Instead of the pollution junk food, we need to rehabilitate town and country and feed organic carbon back into the ocean system.
16. Now when you go by the Butler Street drain you know the thinking that created it and you also know about the thinking that can fix.
17. When you look out from the Ewingsdale road you know the thinking that created this too. How it backfired and what we can do next.
18. Looking out from the top of Paterson Street Hill, the water tank is now full of graffiti. But underneath is the town history in murals and one of those panels reminds us of what the Byron Belongil meeting place was once not that very long ago.
19. The five principles of integrated water management. You can count them off on the fingers of one hand. water must wait in pools and ponds, we must accept the stormwater cleaner to polish it, and in doing so help turn other water cycles in town and country, we must engage the wildlife and renew the marine life. We made a start, we were national leaders. The time has come to pick up and get the job done.
20. And here is why. We all know and love this scene. Whatever do you think about it -- the marvellous quality of life, the unique business and tourism opportunities? On top of that, I hope you now also think of the many opportunities we have with water, right here where fresh and marine waters meet.